



An E-Magazine

THE BYTE

March 2018

LITERARY
CURRENT AFFAIRS
QNA
DEPARTMENTAL EVENT
LATEST
TECHNOLOGIES

Department Of Computer Science

Executive Council



Shri Sanjay Agarwal
 Chairman



Shri Rakesh Chharia
 General Secretary



Shri Ramesh Chaudhary
 Treasurer



Shri Sudhir Shukla
 Joint Secretary



Shri Naresh Agarwal
 Executive Member



Sh. Nitin Agarwal
 Executive Member



Shri Pramod Agarwal
 Executive Member



Shri Rajiv Chaudhary
 Executive Member



Shri Ashok Chaturvedi
 Executive Member



Shri Apurve Goel
 Executive Member



Ms. Garima Aggarwal
 Executive Member



Shri Vidur Chharia
 Executive Member



Smt. Anshu Gupta
 Executive Member

HOD(CSE)



Dr. Pankaj Aggarwal

Director

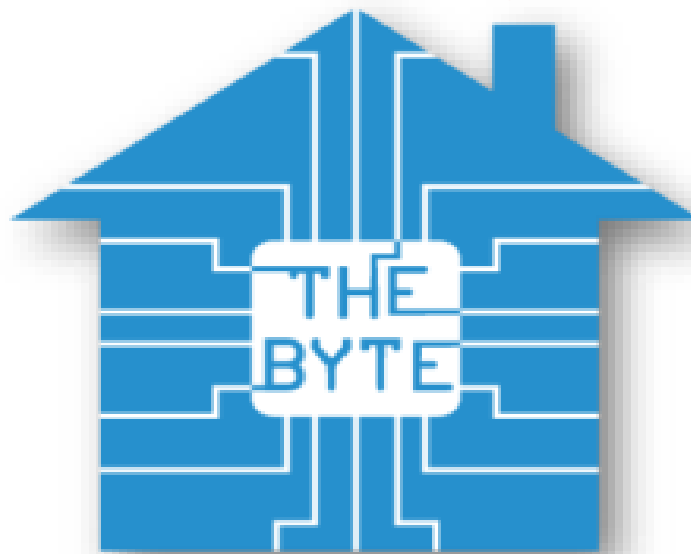


Prof. (Dr.) Sraban Mukherjee

LOOK UP INSIDE

- 1 ARTICLES
- 2 LATEST TECHNOLOGY
- 3 LITERARY
- 4 Q & A
- 5 DEPARTMENTAL EVENTS
- 6 PLACEMENT
- 7 CURRENT AFFAIRS
- 8 UPCOMING EVENTS
- 9 BYTE TEAM

MAR, 2018



ARTICLES

MULTI **LEVEL** **MARKETING**

"If you are willing to learn, nothing can stop you from succeeding in Network Marketing Business & Living your dream lifestyle. Even if you didn't have anybody to guide you in MLM, experiences guide you at every step".

Multi Level Marketing (MLM) is a well thought philosophical scientific process for marketing of goods & services. Age, Religion, Sex, Cast, Education has no effect in MLM. To Understand MLM Industry, firstly see the people & philosophy of that Industry. Whether you become successful or fail in MLM but if the Industry focuses on certain things like people Culture, Good Leadership, Good Training, making Good people, Character, Morality, Honesty, Integrity, Principle, Values as well as Ethics then you must opt MLM Industry because it focuses on Training Methodology, Learning Development, increases your own growth and makes you more powerful from inside wherever you move in your life you will get the benefit of it. MLM is Industry where people without Salary also have a High Motivation but In Corporate world where is High Salary, High Incentives, High payout, High HR policies and HR facilities but then also Employees do not have Motivation. In MLM Power of Compounding works, as one of the famous scientist Albert Einstein said ***"Compound Interest is the 8th Wonder of the World"***. In MLM you give Continuous Hard work and it gives Compounding Result but In Jobs & other Business you give Continuous Hard work but won't get a Compounding Interest. Benefits of MLM is a Safe Job, you can write your own cheques, by small investment get a big amount, Multiply your Time, Financial Freedom, Live Comfortable Life, Communication Skills, Early Age Retirement, build more relations and get that much Extreme Respect which Big Ministers also won't get.



Who Loves The Nation?



Patriotism, people and politics have been the center of discussion for nearly two centuries. Time to time, the patriotism of a person has been proved/questioned by several authorities, be it social or political. Patriot and patriotism is very necessary for the structure of a healthy nation. Like, a healthy body can fight all the attacking germs, similarly, a healthy nation can fight all the attacking germs (be it a single terrorist or a group of nation) and stay strong and firm, if it has responsible and patriot people. Patriot people are the building block of the nation. Do you remember? Small Vietnam once defeated Superpower America and fought for 20 years against it, because it had people ready to die for their nation. After 70 years of independence the word “patriot” again came into limelight. Either due to shifting of central power from one ideology to another or due to sudden activity of one community against another. I never had the problem with patriotism, in fact, no one would have; but my problem is only with the criterion. The criteria of measuring level of patriotism in one’s blood has been centered on the uttering of mere a few words, but I think, it is not necessary that a person uttering those words is a patriot and the person refusing to utter, is a traitor. Let us together understand it. Patriot is the English of “Desh-Bhakt”, it means a person loving his nation. But what is nation? A piece of land? A flag? Or a just a statement “Vande Mataram”? No, nation is not formed by them, these are just the symbols to represent the nation, yes I agree, one should respect these symbols. But, if a person has a problem with “National Anthem” because he thinks it was wrote and sung to welcome “George V” the British emperor, and he is the person who was called “Bharat Bhagya Vidhata” in the song, then we can not call him a traitor, should we? And I think, it is also not necessary that you have to respect or love your nation by calling it “mother”, a nation can be loved in its own form. Is it necessary to change it from “a nation” to “a mother”? Is the word “nation” not respectable, and it becomes respectable only when you assume it to be your mother? Let’s not entangle in the discussion of how the great “Bharatvarsh” became “Bharatmata”; the centre of the article is “what is love for nation? And, what is patriotism in its real form?” Nation is never “a piece of land”, it is constituted by its people who belong to different creed, class, community, religions, beliefs and what not. And when you say, you love the nation; you must mean that you love the people who belong to the country. But if it was so, then, the patriotic Shiv Sena, would never have a problem with Biharis. If it was so, then,

there would have never been any communal riots. Love for nation never means love for the boundaries or hatred for Pakistan, in fact it means that:

☐ **You would keep it clean. Is India “the cleanest” in the world?**

☐ **You would follow the rules made for the well being of its people. Do you follow all the rules and regulations, like traffic rules, legal rules?**

☐ **You would never discriminate any one on the basis of community, thinking, class or sex. Different class has different constitutional rights and you would respect them and their rights.**

If uttering of Jai Hind was the certificate of Patriotism, then, every leader must be a patriot; because, every speech ends with a Jai Hind. Patriot is not the person who utters Bharat Mata Ki Jai or Vande Mataram, in fact; Patriot is the person who cries when he hears a story of a baby died due to hunger. Patriot is the person who passes sleepless nights, because, rapes happen in India. Patriot is the person who revolts, when any injustice happens with minors. Patriot is the person who lives and dies, for the well being of the citizens of the country. Who does so, in the modern society? Do we? We career focused students of the society, busy in shaping and enjoying our lives, think that abusing Pakistan is the definition of patriotism, and standing for the national anthem is the fulfillment of our national duties. Shouting Inqlab Zindabad with hostel mates at 12 o'clock at midnight of national festivals may not ensure the nation, that you are going to be the strength of the nation when you turn 21; but crying when a soldier gets martyred, or, respecting every women of the society, or, caring for the cleanliness of the college or surroundings; will definitely bring surety in its heart that you would prove to be the strongest brick in the wall of the nation and it can rely on you in the time of need.

K O T L I N

The new powerful language for Android Development



On 17th May 2017, at Google I/O Keynote, the CEO of Google Mr. Sundar Pichai and his team had made the big announcement that also includes the launch of new programming language Kotlin. This is one of the biggest and excited news for Android app developers all across the world. With an announcement of Kotlin, a superior programming language that supports the Android App Development, Android developers considers it as a great opening for new opportunities.

Features of Kotlin:

#1- Enhance Development Speed with Less Coding

This excellent open source development platform helps developers to make their app developing process faster. It requires approximately 20% less coding compared to Java. Thus, it helps Android developers to make their task simply, quickly and efficiently.

#2-Easy to Learn for Android Developers

It is a very simple language compared to Java and even fresher can learn it easily. It is available with lean and intuitive syntax enables developers to learn quickly. It also makes debugging easier for writing app code which makes possible app development fast and more interesting for developers.

#3-Open Source Language - Makes this Platform More Powerful

As an open source language under Apache 2, you just need a Java-to-Kotlin converter tool if you want to convert your present java files. This tool is useful to change your complex codes into a simpler code help you to save your time and work. Kotlin supports the open developer networks and the strength of open source makes the network strong which is not restricted to any single company.

Kotlin is developed and supported by JetBrains, a partner of Google.

#4-Most Versatile & Secure Language

Using NullPointerExceptions, it helps developers to avoid errors. Its efficient compiler is specifically designed to auto-cast mistakes, in case you have checked a type as a right. Kotlin is a most efficient language for developers with rich features that include built-in null checking, highly compatible with Java code, extension methods to add new functionalities to existing classes and many more.

Conclusion

The key benefits of Kotlin include excellent code, best performance, less runtime and useful libraries which have made it the first choice for developers over Java. All its rich features and benefits have made it the future of Android App Developers. With simple and less coding and debugging, it boosts the development process as well utilization of existing codes, make it easy for developers to learn and implement in their existing projects or new projects. This first-class official programming language is intended to provide more opportunities to developers by setting up a nonprofit foundation in partnership with Google to shepherd the language.

It's must not be over with a few claps. The engineering students must get a detailed analysis of what was the actual surprise. Let's ask one of us IMSians who has done a lot work in field of Artificial Intelligence . **Prashant Kumar 2.C.S.**

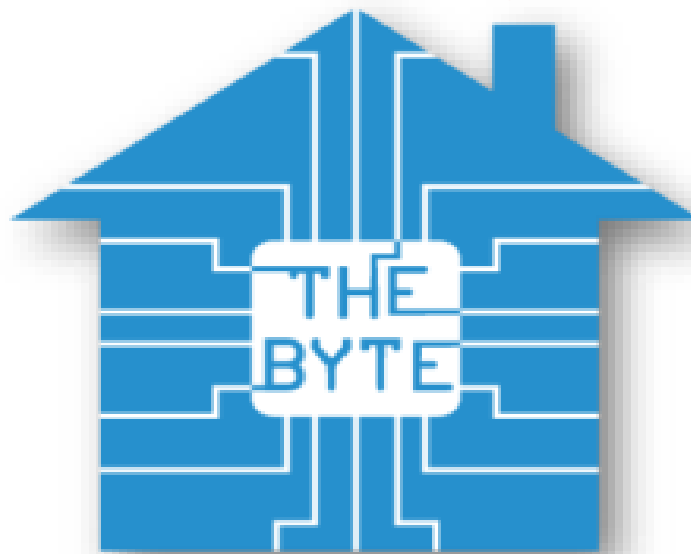
Here is the real thing; the bulletin may baffle your ears that a computer program may Think like a human or in fact better than a human. It's not so. All the AI software work with a pattern of data collection. The software must have taken the problem as ***Statement 1:*** The prisoner would survive if he gets to know the color of his hat.

Statement 3: What are the possible ways that a prisoner can get to know the color of any hat (the prisoners behind him may speak aloud or he can see the caps in front of him).

Statement 5: Set the person behind to speak aloud the color of his hat.” See it wasn’t a task. What about the first question then?

Hence, this doesn't prove that AI soft are even nearer to human consciousness, even if they are.

.....



LATEST TECHNOLOGY

Depth-sensing imaging System can peer through Fog

MIT researchers have developed a system that can produce images of objects shrouded by fog so thick that human vision can't penetrate it. It can also gauge the objects' distance. An inability to handle misty driving conditions has been one of the chief obstacles to the development of autonomous vehicular navigation systems that use visible light, which are preferable to radar-based systems for their high resolution and ability to read road signs and track lane markers. So, the MIT system could be a crucial step toward self-driving cars.

The researchers tested the system using a small tank of water with the vibrating motor from a humidifier immersed in it. In fog so dense that human vision could penetrate only 36cm, the system was able to resolve images of objects and gauge their depth at a range of 57 centimeters. Fifty-seven centimeters is not a great distance, but the fog produced for the study is far denser than any that a human driver would have to contend with; in the real world, a typical fog might afford a visibility of about 30 to 50 meters. The vital point is that the system performed better than human vision, whereas most imaging systems perform far worse. A navigation system that was even as good as a human driver at driving in fog would be a huge breakthrough. "I decided to take on the challenge of developing a system that can see through actual fog," says Guy Satat, a graduate student in the MIT Media Lab, who led the research. "We're dealing with realistic fog, which is dense, dynamic, and heterogeneous. It is constantly moving and changing, with patches of denser or

less dense fog. Other methods are not designed to cope with such realistic scenarios.” Satat and his colleagues describe their system in a paper they’ll present at the International Conference on Computational Photography in May. Satat is first author on the paper, and he’s joined by his thesis advisor, associate professor of media arts and sciences Amesh Raskar, and by Matthew Tancik, who was a graduate student in electrical engineering and computer science when the work was done.

On a clear day, the light’s return time faithfully indicates the distances of the objects that reflected it. But fog causes light to “scatter,” or bounce around in random ways. In foggy weather, most of the light that reaches the camera’s sensor will have been reflected by airborne water droplets, not by the types of objects that autonomous vehicles need to avoid. And even the light that does reflect from potential obstacles will arrive at different times, having been deflected by water droplets on both the way out and the way back. The MIT system gets around this problem by using statistics. The patterns produced by fog-reflected light vary according to the fog’s density: On average, light penetrates less deeply into a thick fog than it does into a light fog. But the MIT researchers were able to show that, no matter how thick the fog, the arrival times of the reflected light adhere to a statistical pattern known as a gamma distribution.

By--

Pradeep Yadav

Cs-2 3 rd yr



Neural Networks Everywhere

Most recent advances in artificial-intelligence systems such as speech- or face recognition programs have come courtesy of neural networks, densely interconnected meshes of simple information processors that learn to perform tasks by analyzing huge sets of training data.

But neural nets are large, and their computations are energy intensive, so they're not very practical for handheld devices. Most smartphone apps that rely on neural nets simply upload data to internet servers, which process it and send the results back to the phone.

Now, MIT researchers have developed a special-purpose chip that increases the speed of neural-network computations by three to seven times over its predecessors, while reducing power consumption 94 to 95 percent. That could make it practical to run neural networks locally on smartphones or even to embed them in household appliances.

"The general processor model is that there is a memory in some part of the chip, and there is a processor in another part of the chip, and you move the data back and forth between them when you do these computations," says Avishek Biswas, an MIT graduate student in electrical engineering and computer science, who led the new chip's development.

"Since these machine-learning algorithms need so many computations, this transferring back and forth of data is the dominant portion of the energy consumption. But the computation these algorithms do can be simplified to one specific operation, called the dot product. Our approach was, can we implement this dot-product functionality inside the memory so that you don't need to transfer this data back and forth?"

Biswas and his thesis advisor, Anantha Chandrakasan, dean of MIT's School of Engineering and the Vannevar Bush Professor of Electrical Engineering and Computer

Science, describe the new chip in a paper that Biswas is presenting this week at the International Solid State Circuits Conference.

Back to analog

Neural networks are typically arranged into layers. A single processing node in one layer of the network will generally receive data from several nodes in the layer below and pass data to several nodes in the layer above. Each connection between nodes has its own “weight,” which indicates how large a role the output of one node will play in the computation performed by the next. Training the network is a matter of setting those weights.

A node receiving data from multiple nodes in the layer below will multiply each input by the weight of the corresponding connection and sum the results. That operation — the summation of multiplications — is the definition of a dot product. If the dot product exceeds some threshold value, the node will transmit it to nodes in the next layer, over connections with their own weights.

A neural net is an abstraction: The “nodes” are just weights stored in a computer’s memory. Calculating a dot product usually involves fetching a weight from memory, fetching the associated data item, multiplying the two, storing the result somewhere, and then repeating the operation for every input to a node. Given that a neural net will have thousands or even millions of nodes, that’s a lot of data to move around. But that sequence of operations is just a digital approximation of what happens in the brain, where signals traveling along multiple neurons meet at a “synapse,” or a gap between bundles of neurons. The neurons’ firing rates and the electrochemical signals that cross the synapse correspond to the data values and weights. The MIT researchers’ new chip improves efficiency by replicating the brain more faithfully. In the chip, a node’s input values are converted into electrical voltages and then multiplied by the appropriate weights. Summing the products is simply a matter of combining the voltages. Only the combined voltages are converted back into a digital representation and stored for further processing.

The chip can thus calculate dot products for multiple nodes — 16 at a time, in the prototype — in a single step, instead of shuttling between a processor and memory for every computation.

All or nothing

One of the keys to the system is that all the weights are either 1 or -1. That means that they can be implemented within the memory itself as simple switches that either close a circuit or leave it open. Recent theoretical work suggests that neural nets trained with only two weights should lose little accuracy — somewhere between 1 and 2 percent.

Biswas and Chandrakasan's research bears that prediction out. In experiments, they ran the full implementation of a neural network on a conventional computer and the binary-weight equivalent on their chip. Their chip's results were generally within 2 to 3 percent of the conventional network's.

“This is a promising real-world demonstration of SRAM-based in-memory analog computing for deep-learning applications,” says Dario Gil, vice president of artificial intelligence at IBM. “The results show impressive specifications for the energy efficient implementation of convolution operations with memory arrays. It certainly will open the possibility to employ more complex convolutional neural networks for image and video classifications in IoT [the internet of things] in the future.”

By--

Pradeep yadav

Cs-2 3 rd yr

Private Browsing Gets More Private

Today, most web browsers have private-browsing modes, in which they temporarily desist from recording the user's browsing history. But data accessed during private browsing sessions can still end up tucked away in a computer's memory, where a sufficiently motivated attacker could retrieve it. This week, at the Network and Distributed Systems Security Symposium, researchers from MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) and Harvard University presented a paper describing a new system, dubbed Veil, that makes private browsing more private.

Veil would provide added protections to people using shared computers in offices, hotel business centers, or university computing centers, and it can be used in conjunction with existing private-browsing systems and with anonymity networks such as Tor, which was designed to protect the identity of web users living under repressive regimes. "Veil was motivated by all this research that was done previously in the security community that said, 'Private-browsing modes are leaky — Here are 10 different ways that they leak,'" says Frank Wang, an MIT graduate student in electrical engineering and computer science and first author on the paper. "We asked, 'What is the fundamental problem?' And the fundamental problem is that [the browser] collects this information, and then the browser does its best effort to fix it. But at the end of the day, no matter what the browser's best effort is, it still collects it. We might as well not collect that information in the first place."

Wang is joined on the paper by his two thesis advisors: Nickolai Zeldovich, an associate professor of electrical engineering and computer science at MIT, and James Mickens, an associate professor of computer science at Harvard.

Shell game

With existing private-browsing sessions, Wang explains, a browser will retrieve data much as it always does and load it into memory. When the session is over, it attempts to erase whatever it retrieved.

But in today's computers, memory management is a complex process, with data continuously moving around between different cores (processing units) and caches (local, high-speed memory banks). When memory banks fill up, the operating system might transfer data to the computer's hard drive, where it could remain for days, even after it's no longer being used.

Generally, a browser won't know where the data it downloaded has ended up. Even if it did, it wouldn't necessarily have authorization from the operating system to delete it.

Veil gets around this problem by ensuring that any data the browser loads into memory remains encrypted until it's actually displayed on-screen. Rather than typing a URL into the browser's address bar, the Veil user goes to the Veil website and enters the URL there. A special server — which the researchers call a blinding server — transmits a version of the requested page that's been translated into the Veil format.

The Veil page looks like an ordinary webpage: Any browser can load it. But embedded in the page is a bit of code — much like the embedded code that would, say, run a video or display a list of recent headlines in an ordinary page — that executes a decryption algorithm. The data associated with the page is unintelligible until it passes through that algorithm.

Decoys

Once the data is decrypted, it will need to be loaded in memory for as long as it's displayed on-screen. That type of temporarily stored data is less likely to be traceable after the browser session is over. But to further confound would-be attackers, Veil includes a few other security features. One is that the blinding servers randomly add a bunch of

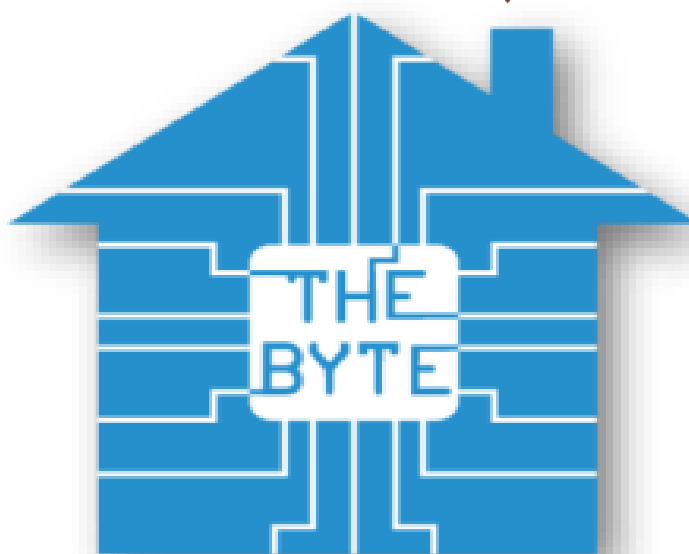
meaningless code to every page they serve. That code doesn't affect the way a page looks to the user, but it drastically changes the appearance of the underlying source file. No two Transmissions of a page served by a blinding sever look alike, and an adversary who managed to recover a few stray snippets of decrypted code after a Veil session probably wouldn't be able to determine what page the user had visited.

If the combination of run-time decryption and code obfuscation doesn't give the user an adequate sense of security, Veil offers an even harder-to- hack option. With this option, the blinding server opens the requested page itself and takes a picture of it. Only the picture is sent to the Veil user, so no executable code ever ends up in the user's computer. If the user clicks on some part of the image, the browser records the location of the click and sends it to the blinding server, which processes it and returns an image of the updated page.

The back end


Veil does, of course, require web developers to create Veil versions of their sites. But Wang and his colleagues have designed a compiler that performs this conversion automatically. The prototype of the compiler even uploads the converted site to a blinding server. The developer simply feeds the existing content for his or her site to the compiler. A slightly more demanding requirement is the maintenance of the blinding servers. These could be hosted by either a network of private volunteers or a for-profit company. But site managers may wish to host Veil-enabled versions of their sites themselves. For web services that already emphasize the privacy protections they afford their customers, the added protections provided by Veil could offer a competitive advantage.

“Veil attempts to provide a private browsing mode without relying on browsers,” says Taesoo Kim, an assistant professor of computer science at Georgia Tech, who was not involved in the research. “Even if end users didn't explicitly enable the private browsing mode, they still can get benefits from Veil-enabled websites. Veil aims to be practical — it doesnt require any modification on the browser side — and to be stronger — taking care of other corner cases that browsers do not have full control of.”



LITERARY

THE ALONE



Alas! the day is there once again;
Crying like a thirsty in the rain;
Being poor can give you some pain;
Being ignored puts you into the vain;

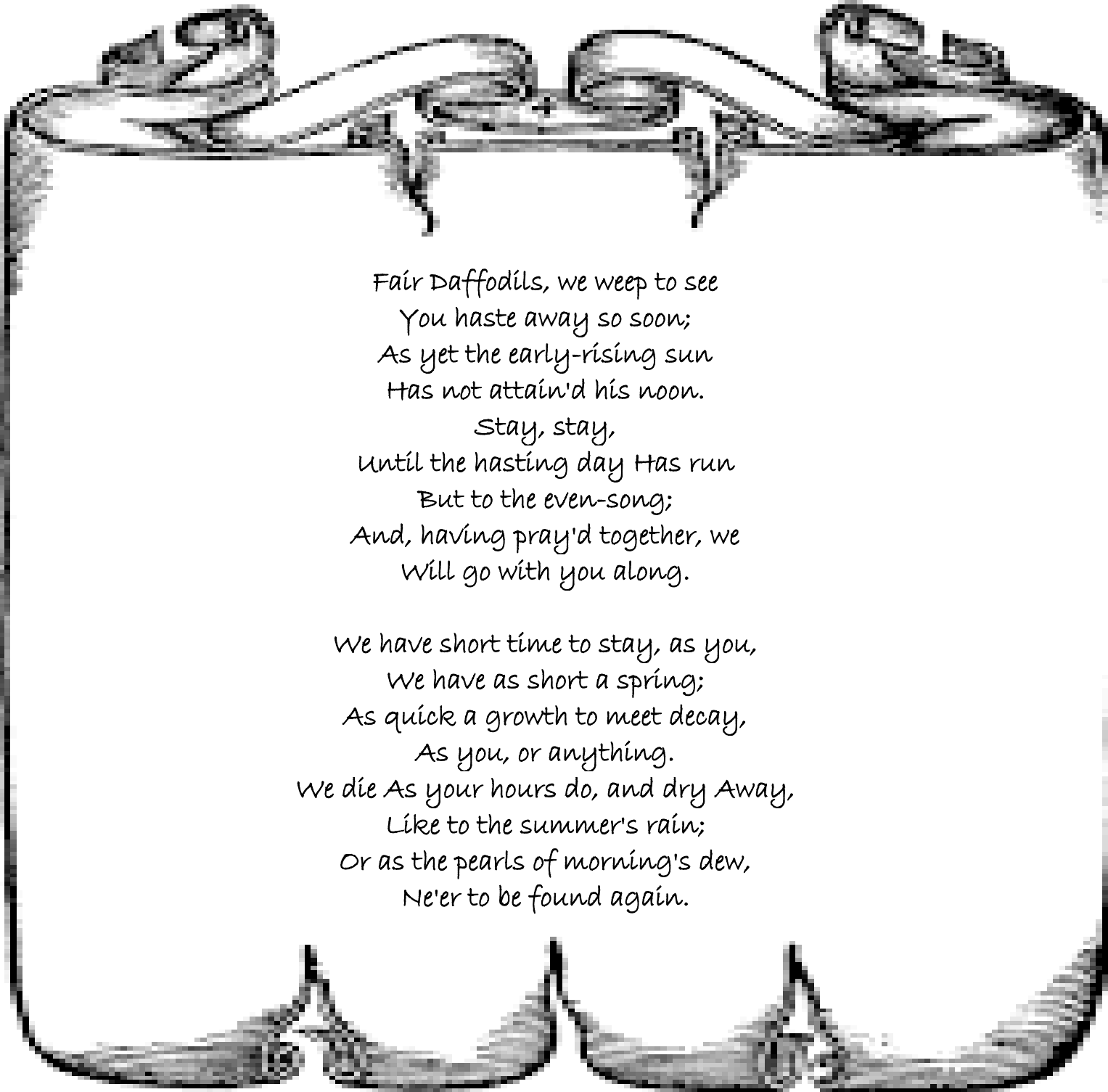
Showers the shadow and give you the way;
Home of love,sometime shed of clay;
Puzzled with life ,what should i play;
But getting alone is the way to decay;

Accepting the challenge,I am happy to be alone;
Can't replenish or delete that zone;
Don't know to what fate is prone;
Journey ended or it's a new stepping stone;

BY:

DEEPAK JAIN (2nd, CS1)

To Daffodils



Fair Daffodils, we weep to see
You haste away so soon;
As yet the early-rising sun
Has not attain'd his noon.

Stay, stay,
until the hasting day Has run
But to the even-song;
And, having pray'd together, we
Will go with you along.

We have short time to stay, as you,
We have as short a spring;
As quick a growth to meet decay,
As you, or anything.
We die As your hours do, and dry Away,
Like to the summer's rain;
Or as the pearls of morning's dew,
Ne'er to be found again.

THE TELL-TALE HEART

TRUE! NERVOUS--very, very dreadfully nervous I had been and am! but why will you say that I am mad? The disease had sharpened my senses--not destroyed--not dulled them. Above all was the sense of hearing acute. I heard all things in the heaven and in the earth. I heard many things in hell. How, then, am I mad? Hearken! and observe how healthily--how calmly I can tell you the whole story.

It is impossible to tell how first the idea entered my brain; but once conceived, it haunted me day and night. Object there was none. Passion there was none. I loved the old man. He had never wronged me. He had never given me insult. For his gold I had no desire. I think it was his eye! Yes, it was this! One of his eyes resembled that of a vulture--a pale blue eye, with a film over it. Whenever it fell upon me, my blood ran cold; and so by degrees--very gradually--I made up my mind to take the life of the old man, and thus rid myself of the eye forever.

Now this is the point. You fancy me mad. Madmen know nothing. But you should have seen me. You should have seen how wisely I proceeded--with what caution--with what foresight--with what dissimulation I went to work!

I was never kinder to the old man than during the whole week before I killed him. And every night, about midnight, I turned the latch of his door and opened it--oh, so gently! And then, when I had made an opening sufficient for my head, I put in a dark lantern, all closed, closed, so that no light shone out, and then I thrust in my head. Oh, you would have laughed to see how cunningly I thrust it in! I moved it slowly--very, very slowly, so that I might not disturb the old man's sleep. It took me an hour to place my whole head within the opening so far that I could see him as he lay upon his bed. Ha!--would a madman have been so wise as this? And then, when my head was well in the room, I undid the lantern cautiously--oh, so cautiously--cautiously (for the hinges creaked)--I undid it just so much that a single thin ray fell upon the vulture eye. And this I did for seven long nights--every night just at midnight--but I found the eye always closed; and so it was impossible to do the work; for it was not the old man who vexed me, but his Evil Eye. And every morning, when the day broke, I went boldly into the chamber, and spoke courageously to him, calling him by name in a hearty tone, and inquiring how he had passed the night. So you see he would have been a very profound old man, indeed, to suspect that every night, just at twelve, I looked in upon him while he slept.

Upon the eighth night I was more than usually cautious in opening the door. A watch's minute hand moves more quickly than did mine. Never before that night had I felt the extent of my own powers--of my sagacity.

I could scarcely contain my feelings of triumph. To think that there I was, opening the door, little by little, and he not even to dream of my secret deeds or thoughts. I fairly chuckled at the idea; and perhaps he heard me; for he moved on the bed suddenly, as if startled. Now you may think that I drew back--but no. His room was as black as pitch with the thick darkness (for the shutters were close fastened, through fear of robbers), and so I knew that he could not see the opening of the door, and I kept pushing it on steadily, steadily.

I had my head in, and was about to open the lantern, when my thumb slipped upon the tin fastening, and the old man sprang up in bed, crying out: "Who's there?"

I kept quite still and said nothing. For a whole hour I did not move a muscle, and in the meantime I did not hear him lie down. He was still sitting up in the bed listening;--just as I have done, night after night, hearkening to the death watches in the wall.

Presently I heard a slight groan, and I knew it was the groan of mortal terror. It was not a groan of pain or grief--oh no!--it was the low stifled sound that arises from the bottom of the soul when overcharged with awe. I knew the sound well. Many a night, just at midnight, when all the world slept, it has welled up from my own bosom, deepening, with its dreadful echo, the terrors that distracted me. I say I knew it well. I knew what the old man felt, and pitied him, although I chuckled at heart. I knew that he had been lying awake ever since the first slight noise, when he had turned in the bed. His fears had been ever since growing upon him. He had been trying to fancy them causeless, but could not. He had been saying to himself: "It is nothing but the wind in the chimney--it is only a mouse crossing the floor," or "it is merely a cricket which has made a single chirp." Yes, he had been trying to comfort himself with these suppositions; but he had found all in vain. All in vain; because Death, in approaching him, had stalked with his black shadow before him, and enveloped the victim. And it was the mournful influence of the unperceived shadow that caused him to feel--although he neither saw nor heard--to feel the presence of my head within the room.

When I had waited a long time, very patiently, without hearing him lie down, I resolved to open a little--a very, very little crevice in the lantern. So I opened it--you cannot imagine how stealthily, stealthily--until, at length, a single dim ray, like the thread of the spider, shot from out the crevice and full upon the vulture eye.

It was open--wide, wide open--and I grew furious as I gazed upon it. I saw it with perfect distinctness--all a dull blue, with a hideous veil over it that chilled the very marrow in my bones; but I could see nothing else

of the old man's face or person: for I had directed the ray, as if by instinct, precisely upon the damned spot.

And now--have I not told you that what you mistake for madness is but over-acuteness of the senses?--now, I say, there came to my ears a low, dull, quick sound, such as a watch makes when enveloped in cotton. I knew that sound well too. It was the beating of the old man's heart. It increased my fury, as the beating of a drum stimulates the soldier into courage.

But even yet I refrained and kept still. I scarcely breathed. I held the lantern motionless. I tried how steadily I could maintain the ray upon the eye. Meantime the hellish tattoo of the heart increased. It grew quicker and quicker and louder and louder every instant. The old man's terror must have been extreme! It grew louder, I say, louder every moment!--do you mark me well? I have told you that I am nervous: so I am. And now at the dead hour of night, amid the dreadful silence of that old house, so strange a noise as this excited me to uncontrollable terror. Yet, for some minutes longer I refrained and stood still. But the beating grew louder, louder! I thought the heart must burst. And now a new anxiety seized me--the sound would be heard by a neighbor! The old man's hour had come! With a loud yell, I threw open the lantern and leaped into the room. He shrieked once--once only. In an instant I dragged him to the floor, and pulled the heavy bed over him. I then smiled gaily, to find the deed so far done. But, for many minutes, the heart beat on with a muffled sound. This, however, did not vex me; it would not be heard through the wall. At length it ceased. The old man was dead. I removed the bed and examined the corpse. Yes, he was stone, stone dead. I placed my hand upon the heart and held it there many minutes. There was no pulsation. He was stone dead. His eye would trouble me no more.

If still you think me mad, you will think so no longer when I describe the wise precautions I took for the concealment of the body. The night waned, and I worked hastily, but in silence. First of all I dismembered the corpse. I cut off the head and the arms and the legs.

I then took up three planks from the flooring of the chamber, and deposited all between the scantlings. I then replaced the boards so cleverly, so cunningly, that no human eye--not even his--could have detected anything wrong. There was nothing to wash out--no stain of any kind--no blood-spot whatever. I had been too wary for that. A tub had caught all--ha! ha!

When I had made an end of these labors, it was four o'clock--still dark as midnight. As the bell sounded the hour, there came a knocking at the street door. I went down to open it with a light heart--for what had I now to fear? There entered three men, who introduced themselves, with perfect suavity, as officers of

the police. A shriek had been heard by a neighbor during the night: suspicion of foul play had been aroused; information had been lodged at the police office, and they (the officers) had been deputed to search the premises.

I smiled--for what had I to fear? I bade the gentlemen welcome. The shriek, I said, was my own in a dream. The old man, I mentioned, was absent in the country. I took my visitors all over the house. I bade them search--search well. I led them, at length, to his chamber. I showed them his treasures, secure, undisturbed. In the enthusiasm of my confidence, I brought chairs into the room, and desired them here to rest from their fatigues, while I myself, in the wild audacity of my perfect triumph, placed my own seat upon the very spot beneath which reposed the corpse of the victim.

The officers were satisfied. My manner had convinced them. I was singularly at ease. They sat, and while I answered cheerily, they chatted familiar things. But, ere long, I felt myself getting pale and wished them gone. My head ached, and I fancied a ringing in my ears: but still they sat and still chatted. The ringing became more distinct:--it continued and became more distinct: I talked more freely to get rid of the feeling: but it continued and gained definiteness--until, at length, I found that the noise was not within my ears.

No doubt I now grew very pale,--but I talked more fluently, and with a heightened voice. Yet the sound increased--and what could I do? It was a low, dull, quick sound--much such a sound as a watch makes when enveloped in cotton. I gasped for breath--and yet the officers heard it not. I talked more quickly--more vehemently; but the noise steadily increased. Why would they not be gone? I paced the floor to and fro with heavy strides, as if excited to fury by the observation of the men--but the noise steadily increased. Oh, God; what could I do? I foamed--I raved--I swore! I swung the chair upon which I had been sitting, and grated it upon the boards, but the noise arose over all and continually increased. It grew louder--louder -- louder! And still the men chatted pleasantly, and smiled. Was it possible they heard not? Almighty God!--no, no! They heard!--they suspected--they knew!--they were making a mockery of my horror!--this I thought, and this I think. But anything was better than this agony! Anything was more tolerable than this derision! I could bear those hypocritical smiles no longer! I felt that I must scream or die!--and now--again!--hark! louder! louder! louder!

"Villains!" I shrieked, "dissemble no more! I admit the deed!--tear up the planks!--here, here!--it is the beating of his hideous heart!"

A Very Old Man with Enormous Wings *by Gabriel Garcia Marquez*

On the third day of rain they had killed so many crabs inside the house that Pelayo had to cross his drenched courtyard and throw them into the sea, because the newborn child had a temperature all night and they thought it was due to the stench. The world had been sad since Tuesday. Sea and sky were a single ash-gray thing and the sands of the beach, which on March nights glimmered like powdered light, had become a stew of mud and rotten shellfish. The light was so weak at noon that when Pelayo was coming back to the house after throwing away the crabs, it was hard for him to see what it was that was moving and groaning in the rear of the courtyard. He had to go very close to see that it was an old man, a very old man, lying face down in the mud, who, in spite of his tremendous efforts, couldn't get up, impeded by his enormous wings.

Frightened by that nightmare, Pelayo ran to get Elisenda, his wife, who was putting compresses on the sick child, and he took her to the rear of the courtyard. They both looked at the fallen body with a mute stupor. He was dressed like a ragpicker. There were only a few faded hairs left on his bald skull and very few teeth in his mouth, and his pitiful condition of a drenched great-grandfather took away any sense of grandeur he might have had. His huge buzzard wings, dirty and half-plucked, were forever entangled in the mud. They looked at him so long and so closely that Pelayo and Elisenda very soon overcame their surprise and in the end found him familiar.

Then they dared speak to him, and he answered in an incomprehensible dialect with a strong sailor's voice. That was how they skipped over the inconvenience of the wings and quite intelligently concluded that he was a lonely castaway from some foreign ship wrecked by the storm. And yet, they called in a neighbor woman who knew everything about life and death to see him, and all she needed was one look to show them their mistake.

"He's an angel," she told them. "He must have been coming for the child, but the poor fellow is so old that the rain knocked him down."

On the following day everyone knew that a flesh-and-blood angel was held captive in Pelayo's house. Against the judgment of the wise neighbor woman, for whom angels in those times were the fugitive survivors of a celestial conspiracy, they did not have the heart to club him to death. Pelayo watched over him all afternoon from the kitchen, armed with his bailiff's club, and before going to bed he dragged him out of the mud and locked him up with the hens in the wire chicken coop. In the middle of the night, when the rain stopped, Pelayo and Elisenda were still killing crabs. A short time afterward the child woke up without a fever and with a desire to eat. Then they felt magnanimous and decided to put the angel on a raft with fresh water and provisions for three days and leave him to his fate on the high seas. But when they went out into the courtyard with the first light of dawn, they found the whole neighborhood in front of the chicken coop having fun with the angel, without the slightest reverence, tossing him things to eat through the openings in the wire as if he weren't a supernatural creature but a circus animal.

Father Gonzaga arrived before seven o'clock, alarmed at the strange news. By that time onlookers less frivolous than those at dawn had already arrived and they were making all kinds of conjectures concerning the captive's future. The simplest among them thought that he should be named mayor of the world. Others of sterner mind felt that he should be promoted to the rank of five-star general in order to win all wars. Some visionaries hoped that he could be put to stud in order to implant the earth a race of winged wise men who could take charge of the universe. But Father Gonzaga, before becoming a priest, had been a robust woodcutter. Standing by the wire, he reviewed his catechism in an instant and asked them to open the door so that he could take a close look at that pitiful man who looked more like a huge decrepit hen among the fascinated chickens.

He was lying in the corner drying his open wings in the sunlight among the fruit peels and breakfast leftovers that the early risers had thrown him. Alien to the impertinences of the world, he only lifted his antiquarian eyes and murmured something in his dialect when Father Gonzaga went into the chicken coop and said good morning to him in Latin. The parish priest had his first suspicion of an imposter when he saw that he did not understand the language of God or know how to greet His ministers. Then he noticed that seen close up he was much too human: he had an unbearable smell of the outdoors, the back side of his wings was strewn with parasites and his main feathers had been mistreated by terrestrial winds, and nothing about him measured up to the proud dignity of angels. Then he came out of the chicken coop and in a brief sermon warned the curious against the risks of being ingenuous. He reminded them that the devil had the bad habit of making use of carnival tricks in order to confuse the unwary. He argued that if wings were not the essential element in determining the difference between a hawk and an airplane, they were even less so in the recognition of angels. Nevertheless, he promised to write a letter to his bishop so that the latter would write his primate so that the latter would write to the Supreme Pontiff in order to get the final verdict from the highest courts.

His prudence fell on sterile hearts. The news of the captive angel spread with such rapidity that after a few hours the courtyard had the bustle of a marketplace and they had to call in troops with fixed bayonets to disperse the mob that was about to knock the house down. Elisenda, her spine all twisted from sweeping up so much marketplace trash, then got the idea of fencing in the yard and charging five cents admission to see the angel.

The curious came from far away. A traveling carnival arrived with a flying acrobat who buzzed over the crowd several times, but no one paid any attention to him because his wings were not those of an angel but, rather, those of a sidereal bat. The most unfortunate invalids on earth came in search of health: a poor woman who since childhood has been counting her heartbeats and had run out of numbers; a Portuguese man who couldn't sleep because the noise of the stars disturbed him; a sleepwalker who got up at night to undo the things he had done while awake; and many others with less serious ailments. In the midst of that shipwreck disorder that made the earth tremble, Pelayo and Elisenda were happy with fatigue, for in less than a week they had crammed their rooms with money and the line of pilgrims waiting their turn to enter still reached beyond the horizon.

The angel was the only one who took no part in his own act. He spent his time trying to get comfortable in his borrowed nest, befuddled by the hellish heat of the oil lamps and sacramental candles that had been placed along the wire. At first they tried to make him eat some mothballs, which, according to the wisdom of the wise neighbor woman, were the food prescribed for angels.

But he turned them down, just as he turned down the papal lunches that the pentinents brought him, and they never found out whether it was because he was an angel or because he was an old man that in the end ate nothing but eggplant mush.

His only supernatural virtue seemed to be patience. Especially during the first days, when the hens pecked at him, searching for the stellar parasites that proliferated in his wings, and the cripples pulled out feathers to touch their defective parts with, and even the most merciful threw stones at him, trying to get him to rise so they could see him standing. The only time they succeeded in arousing him was when they burned his side with an iron for branding steers, for he had been motionless for so many hours that they thought he was dead. He awoke with a start, ranting in his hermetic language and with tears in his eyes, and he flapped his wings a couple of times, which brought on a whirlwind of chicken dung and lunar dust and a gale of panic that did not seem to be of this world. Although many thought that his reaction had not been one of rage but of pain, from then on they were careful not to annoy him, because the majority understood that his passivity was not that of a hero taking his ease but that of a cataclysm in repose.

Father Gonzaga held back the crowd's frivolity with formulas of maidservant inspiration while awaiting the arrival of a final judgment on the nature of the captive. But the mail from Rome showed no sense of urgency. They spent their time finding out if the prisoner had a navel, if his dialect had any connection with Aramaic, how many times he could fit on the head of a pin, or whether he wasn't just a Norwegian with wings. Those meager letters might have come and gone until the end of time if a providential event had not put and end to the priest's tribulations.

It so happened that during those days, among so many other carnival attractions, there arrived in the town the traveling show of the woman who had been changed into a spider for having disobeyed her parents. The admission to see her was not only less than the admission to see the angel, but people were permitted to ask her all manner of questions about her absurd state and to examine her up and down so that no one would ever doubt the truth of her horror. She was a frightful tarantula the size of a ram and with the head of a sad maiden. What was most heartrending, however, was not her outlandish shape but the sincere affliction with which she recounted the details of her misfortune. While still practically a child she had sneaked out of her parents' house to go to a dance, and while she was coming back through the woods after having danced all night without permission, a fearful thunderclap rent the sky in two and through the crack came the lightning bolt of brimstone that changed her into a spider. Her only nourishment came from the meatballs that charitable souls chose to toss into her mouth. A spectacle like that, full of so much human truth and with such a fearful lesson, was bound to defeat without even trying that of a haughty angel who scarcely deigned to look at mortals. Besides, the few miracles attributed to the angel showed a certain mental disorder, like the blind man who didn't recover his sight but grew three new teeth, or the paralytic who didn't get to walk but almost won the lottery, and the leper whose sores sprouted sunflowers. Those consolation miracles, which were more like mocking fun, had already ruined the angel's reputation when the woman who had been changed into a spider finally crushed him completely. That was how Father Gonzaga was cured forever of his insomnia and Pelayo's courtyard went back to being as empty as during the time it had rained for three days and crabs walked through the bedrooms.

The owners of the house had no reason to lament. With the money they saved they built a two-story mansion with balconies and gardens and high netting so that crabs wouldn't get in during the winter, and with iron bars on the windows so that angels wouldn't get in. Pelayo also set up a rabbit warren close to town and gave up his job as a bailiff for good, and Elisenda bought some satin pumps with high heels and many dresses of iridescent silk, the kind worn on Sunday by the most desirable women in those times. The chicken coop was the only thing that didn't receive any attention.

If they washed it down with creolin and burned tears of myrrh inside it every so often, it was not in homage to the angel but to drive away the dungheap stench that still hung everywhere like a ghost and was turning the new house into an old one. At first, when the child learned to walk, they were careful that he not get too close to the chicken coop. But then they began to lose their fears and got used to the smell, and before they child got his second teeth he'd gone inside the chicken coop to play, where the wires were falling apart.

The angel was no less standoffish with him than with the other mortals, but he tolerated the most ingenious infamies with the patience of a dog who had no illusions. They both came down with the chicken pox at the same time. The doctor who took care of the child couldn't resist the temptation to listen to the angel's heart, and he found so much whistling in the heart and so many sounds in his kidneys that it seemed impossible for him to be alive. What surprised him most, however, was the logic of his wings. They seemed so natural on that completely human organism that he couldn't understand why other men didn't have them too.

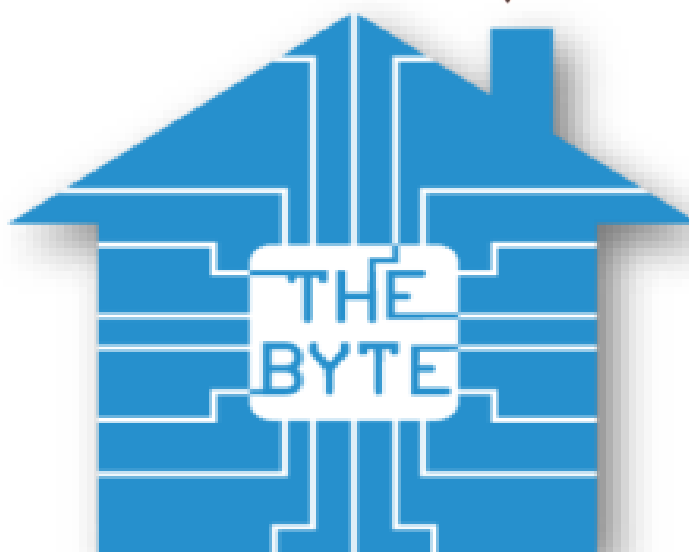
When the child began school it had been some time since the sun and rain had caused the collapse of the chicken coop. The angel went dragging himself about here and there like a stray dying man.

They would drive him out of the bedroom with a broom and a moment later find him in the kitchen. He seemed to be in so many places at the same time that they grew to think that he'd be duplicated, that he was reproducing himself all through the house, and the exasperated and unhinged Elisenda shouted that it was awful living in that hell full of angels.

He could scarcely eat and his antiquarian eyes had also become so foggy that he went about bumping into posts. All he had left were the bare cannulae of his last feathers. Pelayo threw a blanket over him and extended him the charity of letting him sleep in the shed, and only then did they notice that he had a temperature at night, and was delirious with the tongue twisters of an old Norwegian. That was one of the few times they became alarmed, for they thought he was going to die and not even the wise neighbor woman had been able to tell them what to do with dead angels.

And yet he not only survived his worst winter, but seemed improved with the first sunny days. He remained motionless for several days in the farthest corner of the courtyard, where no one would see him, and at the beginning of December some large, stiff feathers began to grow on his wings, the feathers of a scarecrow, which looked more like another misfortune of decrepitude. But he must have known the reason for those changes, for he was quite careful that no one should notice them, that no one should hear the sea chanteys that he sometimes sang under the stars. One morning Elisenda was cutting some bunches of onions for lunch when a wind that seemed to come from the high seas blew into the kitchen. Then she went to the window and caught the angel in his first attempts at flight.

They were so clumsy that his fingernails opened a furrow in the vegetable patch and he was on the point of knocking the shed down with the ungainly flapping that slipped on the light and couldn't get a grip on the air. But he did manage to gain altitude. Elisenda let out a sigh of relief, for herself and for him, when she watched him pass over the last houses, holding himself up in some way with the risky flapping of a senile vulture. She kept watching him even when she was through cutting the onions and she kept on watching until it was no longer possible for her to see him, because then he was no longer an annoyance in her life but an imaginary dot on the horizon of the sea.





How can I live to be 100 years old?

Life expectancy figures normally assume mortality rates will stay the same, but medical and safety improvements are constantly reducing them. A new Danish model that takes this into account found that children born in the developed world today have a 50 per cent chance of reaching 100

Women live longer than men, and not just because they tend not to fight wars. Japanese researchers created mice without a father by combining two female genomes. Their lifespan was extended by 30 per cent. Men may be engineered for size and strength at the expense of durability.

Daily exercise slows the gradual loss of heart muscle and bone density as we age, and reduces the risk of falls. Once you can no longer walk 400m (0.25 miles) in five minutes, your chance of dying in the next three years rises by 30 per cent.

Are atoms expanding as the Universe expands?

The expansion of the Universe only significantly affects space and time on scales bigger even than entire clusters of galaxies. Below this, the size of objects is dictated by far stronger influences, notably the force of electromagnetism in the case of atoms. Extremely sensitive measurements have found no evidence that the fundamental properties of atoms are anything other than constant.



Why did humans evolve an imagination?

Imagination underlies our ability to anticipate different futures and to reflect on alternative pasts. Arguably, it's what distinguishes us most profoundly from other animals. It means we can learn from past experiences ("If I'd taken a spear with me, I could have caught the deer") and we can hypothesise about the possible outcomes of future scenarios ("If I trek across the desert without any food or water, I will get hungry and thirsty"). This makes us incredibly adaptive and is the secret to our superlative planning and problem-solving skills. Once imagination evolved, it also unlocked the gifts of storytelling, fantasy and wonder.

Who really discovered black holes?

While their enigmatic name was first coined in 1967, the idea of objects whose gravity is so intense not even light can escape them is far older. In 1783, an English cleric and amateur scientist named John Michell showed that Newton's law of gravity suggested such objects could exist. But Michell went further, suggesting that despite being invisible, such objects might reveal themselves if they happened to have a star in orbit about them.

He proved to be amazingly prescient in both respects. During the 1930s, theorists using Einstein's more sophisticated theory of gravity, known as General Relativity, showed that sufficiently massive stars could collapse under their own gravity at the end of their life, and turn into black holes (ironically, Einstein himself never accepted that such strange objects could really exist).



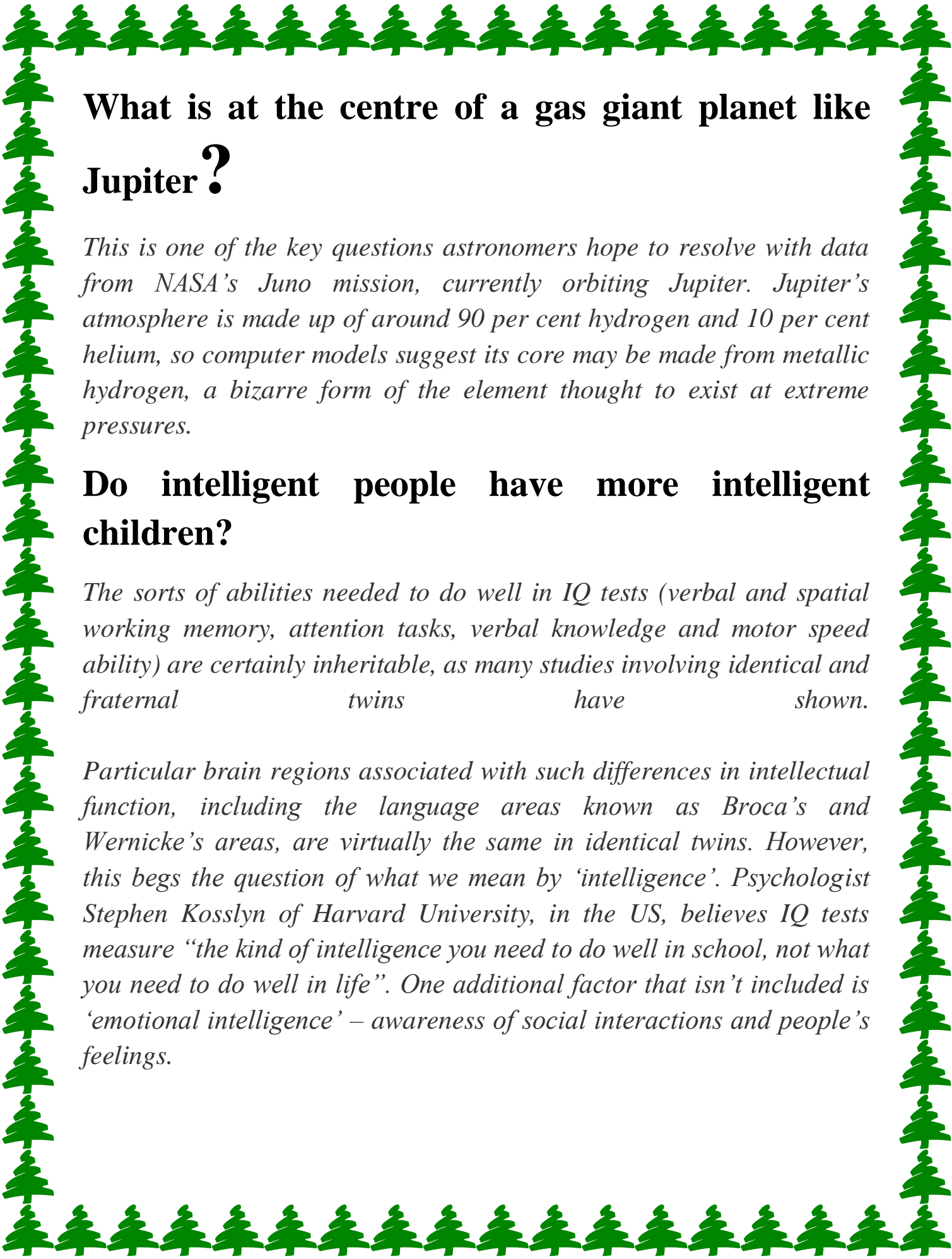
Why do ants walk in a line?

Ants are highly social insects, thriving in colonies of millions of individuals that work as a team. Good communication skills lie at the heart of their success. They rely heavily on chemical scents, called 'pheromones', to defend territories and exchange complex information – from the location of food sources and nest sites, to the presence of predators. Each ant species has its own chemical vocabulary of up to 20 different pheromones which can be secreted to form specific scent trails. The tips of their antennae translate the chemical 'words', thereby guiding the ants, in a line, to or from the desired destination.

What could explain the Star of Bethlehem?

Ancient Chinese records report the appearance of a bright comet in 5BC and also the sudden flare-up of a star in 4BC – both around the time when Christ is now thought to have been born. However, some researchers have claimed these events lack the astrological significance of 'portents' involving the Moon and planets, which would have attracted attention among scholars of the time.

This has led to the emergence of two top contenders for explaining the Star of Bethlehem. The first is a so-called 'occultation' in 6BC, when the Moon appeared to pass in front of Jupiter in the night sky. The second contender is an unusual triple conjunction of Jupiter and Saturn which took place in 7BC, when these two great planets repeatedly appeared close to one another.



What is at the centre of a gas giant planet like Jupiter?

This is one of the key questions astronomers hope to resolve with data from NASA's Juno mission, currently orbiting Jupiter. Jupiter's atmosphere is made up of around 90 per cent hydrogen and 10 per cent helium, so computer models suggest its core may be made from metallic hydrogen, a bizarre form of the element thought to exist at extreme pressures.

Do intelligent people have more intelligent children?

The sorts of abilities needed to do well in IQ tests (verbal and spatial working memory, attention tasks, verbal knowledge and motor speed ability) are certainly inheritable, as many studies involving identical and fraternal twins have shown.

Particular brain regions associated with such differences in intellectual function, including the language areas known as Broca's and Wernicke's areas, are virtually the same in identical twins. However, this begs the question of what we mean by 'intelligence'. Psychologist Stephen Kosslyn of Harvard University, in the US, believes IQ tests measure "the kind of intelligence you need to do well in school, not what you need to do well in life". One additional factor that isn't included is 'emotional intelligence' – awareness of social interactions and people's feelings.



Puzzle Questions

Question: - If three cats kill three rats in three minutes, how long will it take hundred cats to kill hundred rats?

Answer: - 3 minutes

Question: - What always goes 2 sleeps wearing its shoes?

Answer: - horse

Question: - How would u write nineteen that if one is taken out, then its remains twenty.

Answer: - XIX after removing I it would be XX i.e. twenty

Question: - If you had a pizza with crust thickness 'a' and radius 'z', what's the volume of the pizza?

Answer: - $\pi * z * z * a$

Question: - A man has a barrel with filled with oil that weighs 100 pounds, and then he puts something into it. Now the barrel weighs less than 100 pounds. What did he put in the barrel?

Answer: - a hole

Question: - Manoj Singh left on a horse on Thursday, was gone for two days, and came back on Thursday how did that happen?

Answer: - the name of the horse was Thursday

Question: - What are the next three letters in the following sequence? J, F, M, A, M, J, J, A, __, __, __

Answer: - S O N because these are the starting letters of months of the year

Question: - What is full of holes but can still hold water?

Answer: - a sponge

Question: - What can you hold without ever touching or using your hands?

Answer: - your breath



Question: - Divide 50 by half and add 20.

Answer: - 120

Science & Technical Questions

Can wood melt?

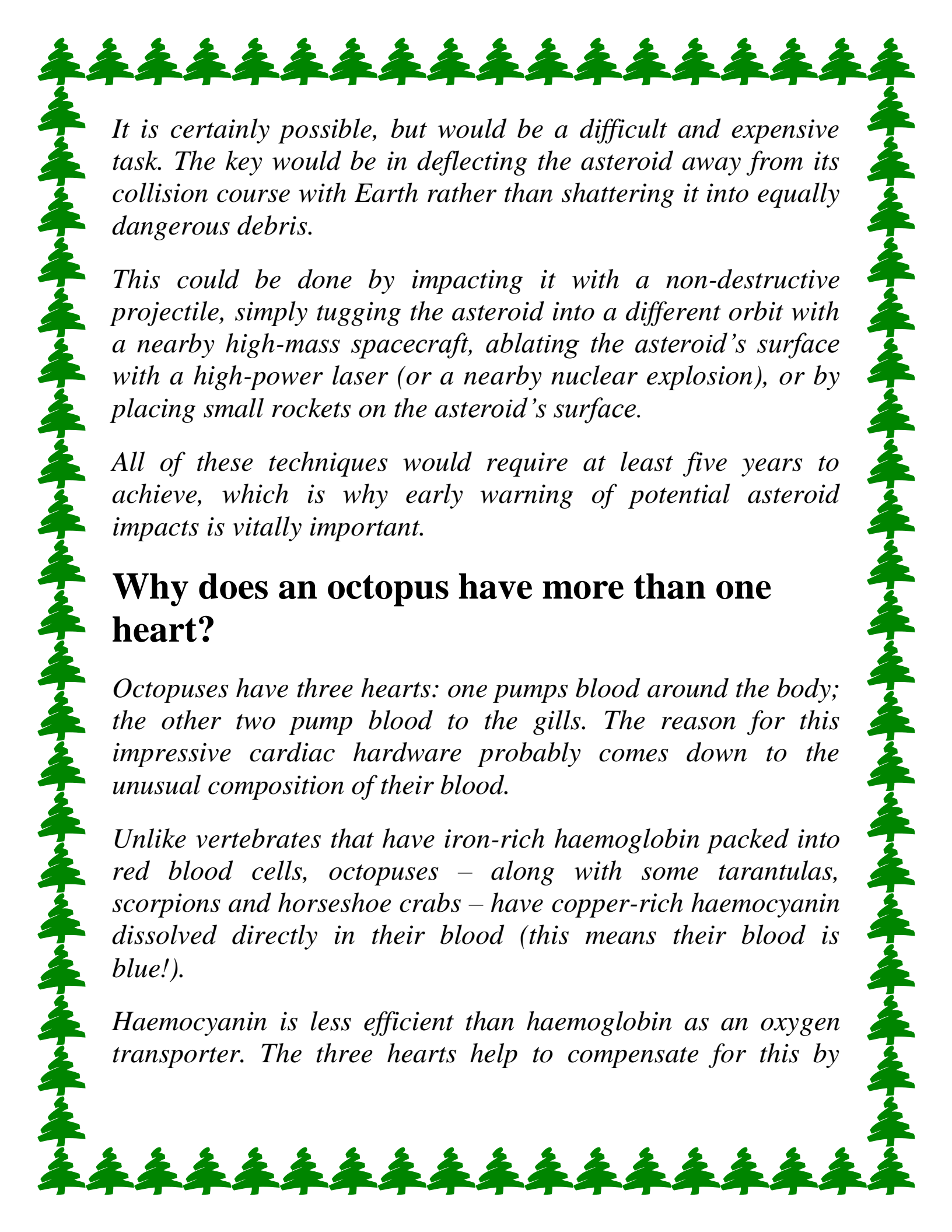
No. Wood is mostly cellulose, lignin and water. If you heat wood, the water boils away first and then the lignin and cellulose (both long-chain organic molecules) will react with oxygen and burn.

Even in a vacuum, these molecular chains are too long and tangled to wiggle free into the liquid phase before they reach temperatures high enough to break their bonds. Instead they break down into smaller substances, like methane and organic compounds containing carbon and hydrogen.

Why is air invisible?

Air is made up mostly of nitrogen and oxygen molecules that are spread too thinly to affect light noticeably by, say, altering its colour or intensity. Even so, air's presence is revealed in hot weather through the shimmering effect called 'heat haze'. This is the result of the heat causing fluctuations in the density of the air, which in turn affects its optical properties.

Could we stop an asteroid from hitting Earth?



It is certainly possible, but would be a difficult and expensive task. The key would be in deflecting the asteroid away from its collision course with Earth rather than shattering it into equally dangerous debris.

This could be done by impacting it with a non-destructive projectile, simply tugging the asteroid into a different orbit with a nearby high-mass spacecraft, ablating the asteroid's surface with a high-power laser (or a nearby nuclear explosion), or by placing small rockets on the asteroid's surface.

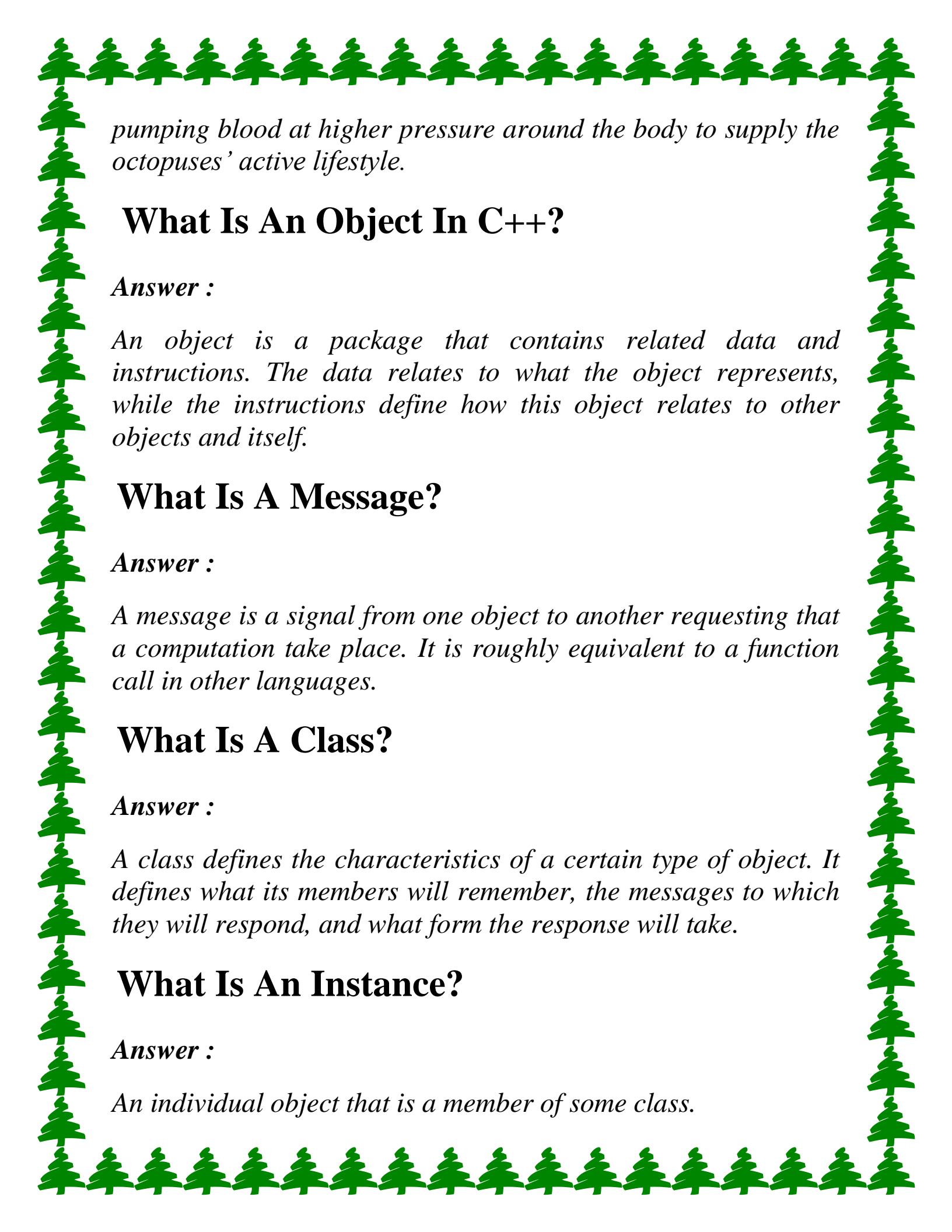
All of these techniques would require at least five years to achieve, which is why early warning of potential asteroid impacts is vitally important.

Why does an octopus have more than one heart?

Octopuses have three hearts: one pumps blood around the body; the other two pump blood to the gills. The reason for this impressive cardiac hardware probably comes down to the unusual composition of their blood.

Unlike vertebrates that have iron-rich haemoglobin packed into red blood cells, octopuses – along with some tarantulas, scorpions and horseshoe crabs – have copper-rich haemocyanin dissolved directly in their blood (this means their blood is blue!).

Haemocyanin is less efficient than haemoglobin as an oxygen transporter. The three hearts help to compensate for this by



pumping blood at higher pressure around the body to supply the octopuses' active lifestyle.

What Is An Object In C++?

Answer :

An object is a package that contains related data and instructions. The data relates to what the object represents, while the instructions define how this object relates to other objects and itself.

What Is A Message?

Answer :

A message is a signal from one object to another requesting that a computation take place. It is roughly equivalent to a function call in other languages.

What Is A Class?

Answer :

A class defines the characteristics of a certain type of object. It defines what its members will remember, the messages to which they will respond, and what form the response will take.

What Is An Instance?

Answer :

An individual object that is a member of some class.



What Is A Super-class?

Answer :

Given a class, a super-class is the basis of the class under consideration. The given class is defined as a subset (in some respects) of the super-class. Objects of the given class potentially possess all the characteristics belonging to objects of the super-class.

What Is Inheritance?

Answer :

Inheritance is property such that a parent (or super) class passes the characteristics of itself to children (or sub) classes that are derived from it. The sub-class has the option of modifying these characteristics in order to make a different but fundamentally related class from the super-class.

To What Does Message Protocol Refer?

Answer :

An object's message protocol is the exact form of the set of messages to which the object can respond.



What Is Polymorphism?

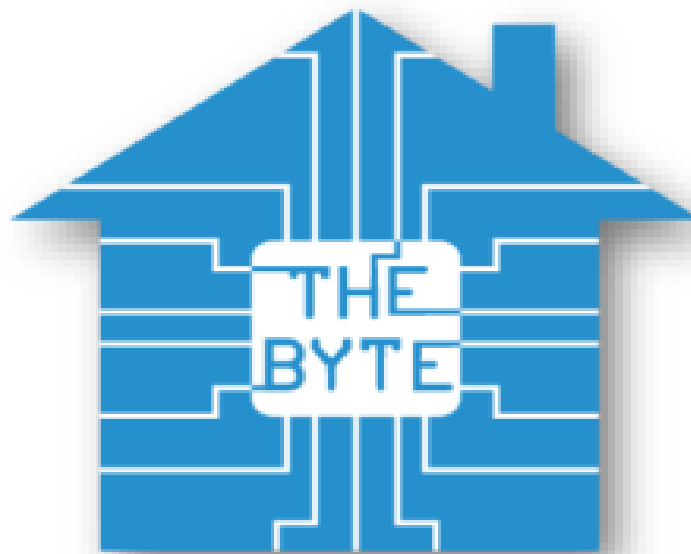
Answer :

Polymorphism refers to the ability of an object to respond in a logically identical fashion to messages of the same protocol, containing differing types of objects. Consider $1 + 5$ and $1 + 5.1$. In the former, the message “+ 5” is sent to an object of class integer (1). In the later, the message “+ 5.1” is sent to the same integer object. The form of the message (its protocol) is identical in both cases. What differs is the type of object on the right-hand side of these messages. The former is an integer object (5) while the later is a floating point object (5.1). The receiver (1) appears (to other objects) to respond in the same way to both messages. Internally, however, it knows that it must treat the two types of objects differently in order to obtain the same overall response.

What Are Instance Variables?

Answer :

These represent an object's private memory. They are defined in an object's class.



DEPARTMENTAL EVENTS

1st position at AIRC'18

One of our students Vishal Sharma, B.Tech 2nd Year won 1st position at AIRC'18 : All India Research Championship 2018 organized by TechieNest Pvt. Ltd. in association with IIT KANPUR during 15th-march to 18th-march-2018.

The theme of the competition was "Artificial Intelligence" and "Internet Of Things"

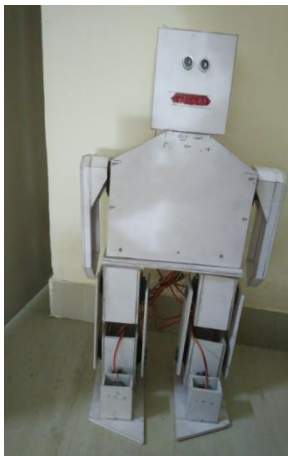
Their project titled "SHADOW: THE AI SOUL". Shadow is an artificially intelligent humanoid robot which can intelligently do many tasks and can be used as a personal robo assistant also.

Features of the project

- *Face Detection and Recognition*
- *Speech Processing*
- *Weather Forecasting*
- *Proximity & Obstacle Detection*
- *Operational through any Smart phone*
- *Emailing*
- *Modes – Text, Speech, Image*
- *Walk and Talk*
- *Can Entertain*

His team comprised of two other students from JECRC, Jaipur.

His team received a cheque of Rs 30000/- along with Certificate of merit, trophy & an offer for summer internship





2nd prize at “Innovation Challenge”, IIT Roorkee

- *A project titled “IRON FIST” won the overall 2nd prize in “Innovation Challenge” at Cognizance 2018, a national level techfest at IIT Roorkee*
- *Project Abstract*
- *We have developed a special type of glove. IRON FIST has special features that will help the user(especially women and Indian army) to safeguard them-self, by providing them with the super powers like...electric current, fire flame thrower , tranquillizer gun and third eye technique. These gloves look like any ordinary gloves but due to their special features they are very good for women’s protection.*

FEATURES AND APPLICATIONS OF "IRON FIST"

- 1. ELECTRIC SHOCK :-> close combat***
- 2. FIRE FLAME THROWER :-> distance combat***
- 3. TRANQUILLIZER GUN :-> long distance combat***
- 4. THIRD EYE (calling and GPS system)***

5. PORTABLE and RELIABLE.





Mr. Neetish Singh, B.Tech CSE 3rd year has developed mobile app titled **“Smart police”** for Andhra Pradesh Police. The project was offered to him by Bhavishya Creations (Electronic Crime Record Bureau).

Project Description: It provides four different functionalities.

- Checking Vehicles Details and related Case through Registration Number, Engine Number, Chasis Number.
- Checking Criminals Record on the basis of Aadhar number and name.
- Biometric
- Tracking Police Officers...
- Tracking Cases with Date.

Status of the project: Completed & delivered.

Software Platform used: PHP, Java, XML, C#, SQL

Aman Rastogi, B.Tech 2nd Year was declared as “best college Ambassador” at KIET Tech Fest Endeavour 18. He received a trophy & letter of appreciation

Ms. AshiGoel, Ms. Sonika (2ndyr) won 2nd rank in start-up challenge held at KIET

Mr. Mandeep Singh of CS 3rd Yr won gold medal in badminton at 'LAKSHAYA'- inter college National level Sports festival, ABSEC on 9-10th March 2018

1st prize at Speed 2018

A Project titled **"IRON FIST"** by the students of B.Tech CSE 2nd year won the **1st prize** in the **IOT category** at Speed-18 (Student Project exhibition on engineering design) organized at G.D Goenka, Gurgaon held on 16th March 18.

Student Team:

1. Mr. Kamal Singh Bisht
2. Mr. Mukul Shisodia
3. Mr. Mubeen Haider

They received a Cash award of **Rs 5000/-** along with **certificate of merit**



Participation in GATE 2018

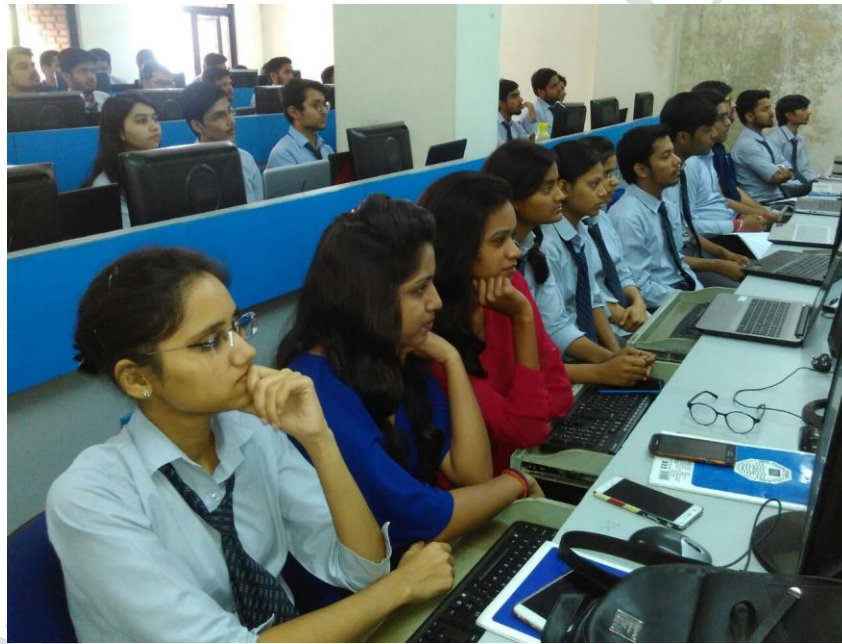
NAME	ROLL	SECTION	GATE SCORE	RANK
SHASHANK SHEKHAR MISHRA	1414310186	2CS	663	918
SUMANTI SAINI	1414310210	CS3	548	2712
ARJUN VERMA	1414310050	CS1	421	7647
DRASHTI PATHAK	1414310073	CS1	604	1644
ANUJ UPADHYAY	1414310044	CS1	354	12782

1. RESEARCH PUBLICATIONS

2. EVENTS BY DEPARTMENT CLUBS

*Full day workshop on Linux Administration was organized by the department on 17.03-2018. It was conducted by **Mr. Alok Srivastava**, Redhat certified trainer. The workshop was attended by 82 students of CS department from 3rd year. All participants will be given certificate of participation.*

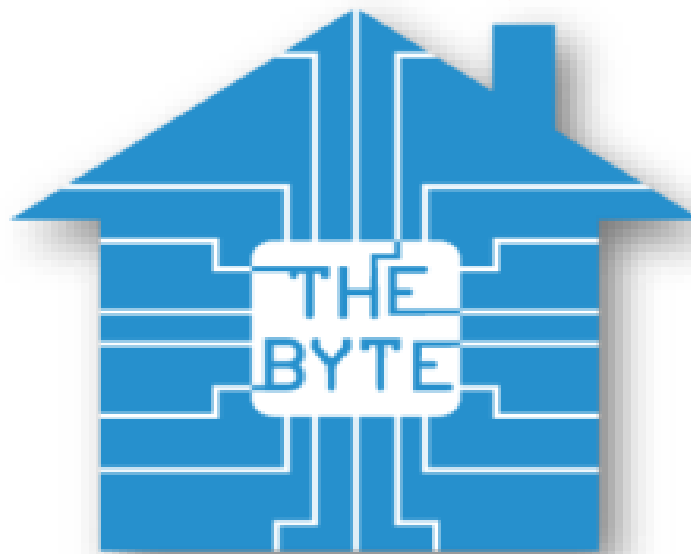
Basic linux commands & administration tools were covered.





3. PARTICIPATION BY FACULTY

1. **Mr. Vishan Gupta, Assistant Professor** qualified GATE 2018
2. **Mr. Pramod Nath, Assistant Professor** qualified GATE 2018



PLACEMENT NEWS

Students Speak



Rajat Garg

B.Tech Final Year Student placed with
India Mart Technologies

I am really proud to say that I'm placed in a company like India Mart. It's a kind of tough to have this opportunity but support from college and self motivation helps a lot. By clearing a rapid fire written round; I was called for technical interview which tested my strength from database to data structures, my projects, internships with basic to advance knowledge. Next round took place at company premises where I was asked of software engineering and lot other stuff. The feeling of getting placed after hard and intelligent approach was inevitable.



Current Affairs

Current Affairs March 2018

- *Cabinet Approves Scheduled Tribes Status to 2 Communities 'Parivara' and 'Talawara' In Karnataka*
- *Cabinet approves Opening of Missions in Africa to implement IAFS-III*
- *Cabinet approves North-East Industrial Development Scheme (NEIDS) 2017 to promote employment in the North Eastern States of India, by providing incentives, primarily to the Micro Small and Medium Enterprises (MSME) Sector*
- *Central Board of Direct Taxes (CBDT) has stated that it has constituted a task force to review the Income Tax Act, 1961 and to draft a new Direct Tax Law which takes into consideration the prevailing economic scenario and economic needs of contemporary India. Suggestions and feedback from stakeholders and general public is provided on www.incometaxindia.gov.in.*
- *On 20th March 2018, Union Minister of Mines Narendra Singh Tomar launched a "sand mining framework" in order to help states to take action against illegal mining. The suggestions in this framework will offer a roadmap to the states that will help them to develop their policies and will act as a check on illegal mining of sand*
- *On 21st March 2018, the jackfruit was declared as official fruit of Kerala. officially announced by Kerala Agriculture minister V S Sunil Kumar The state animal is 'Elephant'. The state bird is 'great hornbill'. The state flower is 'kanikkonna'*
- *The world's longest sandstone cave named 'Krem Puri'*

has been discovered in Meghalaya. It was measured by the Meghalaya Adventurers' Association (MAA). It is 24,583 metres long. This cave is longer than the world record-holder Cueva Del Saman, a sandstone cave in Edo Zulia, Venezuela. The longest India cave is the Krem Liat Prah-Umim-Labit system in the Jaintia Hills in Meghalaya.

- *On 21st March 2018, International Yoga Fest was inaugurated by Union minister Jitendra Singh at Talkatora Stadium, New Delhi, as a curtain raiser for the International Yoga Day (IYD) to be held on 21st June 2018. Four cities namely Jaipur, Hyderabad, Ahmedabad and Mysore have been shortlisted for conducting the main function of International Yoga Day 2018.*
- *On 21st March 2018, Bharat Sanchar Nigam Limited (BSNL) launched Free Wi-Fi Facility at Udwada Village, in Valsad District, Gujarat. It is launched under Saansad Adarsh Gram Yojana Rs.16.48 Lakh has been allotted for implementing Wi-Fi by BSNL in Udwada Village*
- *On 20th March 2018, Biotechnology Industry Research Assistance Council (BIRAC) celebrated its 6th Foundation Day in New Delhi. The event was inaugurated by Dr. Harsh Vardhan. Theme: The theme for 6th Foundation Day of BIRAC was 'Sustaining Innovation – A Market Driven Pathway'.*
- *On March 22, 2018, Parliament passed Payment of Gratuity (Amendment) Bill, 2017 which authorises Central Government to fix tax-free gratuity amount and period of maternity leave with an executive order. After implementation of 7th Central Pay Commission recommendations, ceiling of tax-free gratuity amount for central government employees was increased from Rs 10 lakh to Rs 20 lakh.*
- *INS Ganga, an indigenously built frigate of the Indian Navy, was decommissioned in Mumbai on March 22, 2018. Commissioned on December 30, 1985, INS Ganga is a Godavari-class guided-missile frigate of the Indian*

Navy.Vice Admiral A K Bhal,was the Chief Guest for the ceremony, while Vice Admiral (Retd.) K K Kohli,was the special Guest of Honour.

- *On March 22, 2018, Air India flight (AI 139) became the first flight to land at Tel Aviv's Ben Gurion Airport (Israel) after passing through Saudi Arabia air space.Saudi Arabia's decision to permit Air India to use its airspace enabled it to take a shorter route, saving 2.10 hours of travel time.*
- *On March 23, 2018, Union Minister for Social Justice and Empowerment, Thaawarchand Gehlot launched "First Indian Sign Language Dictionary of 3000 words" in New Delhi.It is developed by Indian Sign Language Research & Training Centre (ISLR&TC)*
- *Minister of State for Home Affairs, Hansraj Gangaram Ahir inaugurated the first National Conference on Drug Law Enforcement in New Delhi on March 23, 2018.This conference has been organised by the Narcotics Control Bureau (NCB), under Union Ministry of Home Affairs.*
- *On 22nd March 2018, the 46th All India Police Science Congress began in Shimla, Himachal Pradesh.It was organised by the Himachal Pradesh Police Department and The Bureau of Police Research and Development. It was held for 2 days.*
- *Indian Space Research Organisation (ISRO) has postponed launch of India's second lunar mission 'Chandrayaan-2' to october, which was to be launched in April 2018.Estimated cost is Rs. 800 crore.*
- *Chandigarh has become North India's 1st city to install Digital Automatic Speed Gun Cameras to check vehicles driving above the permissible speed limit and issue chalan to to vehicle owner's residential address anyone driving above the stipulated city speed limit.*
- *On March 23, 2018, Odisha State Government signed a memorandum of understanding (MoU) with the British Council for cooperation,they will support Odisha State governments "Mo School" (My School) initiative by*

contributing to the development of English language skills for learners and teachers.

- *On 23rd March 2018, the 5th India Maize Summit was held in Federation of Indian Chambers of Commerce and Industry (FICCI), New Delhi. It was organized by Federation of Indian Chambers of Commerce and Industry (FICCI).*
- *Three Minesweeper ships of Indian Navy, INS Konkan, INS Cannanore and INS Cuddalore, were decommissioned in a ceremony at Naval Dockyard, Visakhapatnam on March 23, 2018.*
- *Chief of Staff, Eastern Naval Command, Vice Admiral M S Pawar was the Chief Guest*
- *On March 21, 2018, Cabinet Committee on Security (CCS) headed by Prime Minister Narendra Modi approved Indian Air Force (IAF) plan to set up a forward fighter base close to Deesa in Banaskantha district of Gujarat. CCS has sanctioned Rs. 1000 crore*
- *On 23rd March 2018, the 7th Session of India Egypt Joint Commission Meeting was held in New Delhi. It is led by External Affairs Minister Sushma Swaraj & the Egyptian Foreign Minister Sameh Shoukry.*
- *On March 22, 2018, Delhi government presented a 'green budget' aimed at controlling pollution and monitoring its impact on the environment. Rs. 53000 crore Budget for fiscal 2018-19 in which 26 programmes and schemes of transport, power, environment and PWD will be threaded together for devising a unified system of pollution control.*
- *Insurance Regulatory and Development Authority of India (IRDAI) has extended the deadline for linking of insurance policies with Aadhaar numbers indefinitely. This decision has been taken by IRDAI in accordance with Supreme Court of India's order*
- *On March 22, 2018, India has handed over a second advanced offshore patrol vessel (AOPV) to the Sri Lankan Navy. Construction work of this AOPV commenced in 2014 at the Goa Shipyard. It was officially handed over to Sri*

Lanka Navy Rear Admiral Neil Rosayro

- *As per Census 2011 data, India is home to 413670 beggars. Among all state and Union Territories, highest number of beggars resides in West Bengal (nearly 81000 beggars), while Lakshadweep has only two beggars. Among UT, New Delhi has highest number of beggars.*
- *On 23rd March 2018, BJP national spokesperson Anil Baluni announced that, the birth anniversary of Dr BR Ambedkar (14th April) will be celebrated as 'Social Justice Day'. He was the first law minister of independent India. He is a founding father of the Republic of India.*
- *A 'National Conference on Down Syndrome' was held in New Delhi on March 26, 2018. This conference was organised by the National Trust under Union Ministry of Social Justice and Empowerment. A book entitled "Twilights Children" was released*
- *Dr. Frank-Walter Steinmeier, President of Germany, was on a five-day official visit. Germany is also the 7th largest foreign direct investor in India. Bilateral trade between India and Germany in 2016-17 stood at USD 18.76 billion. Last German president to visit India was Joachim Gauck*
- *On March 26, 2018, International Solar Alliance (ISA) and the Union Ministry of External Affairs (MEA), signed the Host Country Agreement in New Delhi. The Agreement gives ISA a juridical personality and authorises it to contract, to institute and defend legal proceedings and to acquire and dispose off movable and immovable properties.*
- *On March 26, 2018, Assam State Government launched a special programme named 'Mission Sambavh' to build one lakh toilets across the state under the Swachh Bharat Mission. Assam State government has set a target to make the state Open Defecation Free (ODF) during 2018.*
- *On March 1, 2018, Union Cabinet chaired by the Prime Minister Narendra Modi approved the proposal for establishment of National Financial Reporting Authority (NFRA). The NFRA will have a Chairperson, a Secretary*

and three full-time Members.Independent regulator for the auditing profession.In wake of the recent accounting scams across various jurisdictions, it has become necessary to have an independent regulator.To have an independent regulator for the auditing profession was one of the key changes brought in by the Companies Act, 2013.Establishing NFRA will not only boost investor confidence in Indian businesses but will also align Indian norms with International practices..

- *Cabinet approves Fugitive Economic Offenders Bill, 2018*
- *On March 1, 2018, Union Cabinet approved the Fugitive Economic Offenders Bill, 2018 to deal with those who escape overseas after committing financial malpractices in India.*
- *On 1st March 2018,Tamil Nadu Chief Minister K Palaniswami launched the toll free number 14417 through the 24-hour Education Guidance.The 24-hour Education Guidance Centre will provide information and guidance regarding school education. It was said that the help line was set up at a cost of Rs two crore.*
- *The Maharashtra government has partnered with Wikipedia, to spread the Marathi language and enhance its online usage.Maharashtra government made this announcement on Marathi language day (27th February 2018).*
- *On 1st March 2018, M/s Satara Mega Food Park Pvt. Ltd., the first Mega Food Park in Maharashtra, was inaugurated by Harsimrat Kaur Badal, Minister of Food Processing Industries at Degaon village, Satara district of Maharashtra.This is the 12th Mega Food Park put to function in India. Central Government offers funds up to Rs. 50 Crore for each Mega Food Park project.*
- *On March 1, 2018,Central Government approved projects worth Rs 2919.55 crore under the 'Nirbhaya Fund' for eight major cities of India(Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad Ahmedabad and Lucknow).Mumbai is strengthening the "Police Didi" programme, under which*

women police personnel interact with women living in slums.

- On February 28, 2018, Union Textile Minister Smriti Irani attended the 27th Technological Conference of Indian Jute Industries' Research Association (IJIRA) on Shaping the Future of Jute, in Kolkata, West Bengal. She also added that potential entrepreneurs who wish to start manufacturing of these jute-based sanitary napkins can benefit from the Mudra loan scheme of the government,
- Union Ministry of Textiles & the National Institute of Fashion Technology (NIFT) - New Delhi, will conduct a National Sizing Survey of India to develop an 'India size chart' for the garment industry. Approximate cost for the project would be Rs. 30 crore, out of which Rs. 21 crore would be provided by Union Ministry of Textiles while NIFT will chip in Rs. 9 crore.
- On 26th February 2018, Odisha government launched 'Khushi', a scheme that offers free sanitary pads to 17 lakh girl students from class 6 to 12 studying in all government and government –aided schools & will also provide sanitary pads at a subsidised price to rural women through ASHA (Accredited Social Health Activist) workers in Odisha
- Dr Jitendra Singh said that, a food processing centre in collaboration with Israel will be launched in Aizwal, Mizoram on 7th March 2018. The total cost is Rs 8-10 crore. This centre has been set up exclusively for processing of citrus fruits. This is the first such centre with Israeli collaboration in the North East region. This centre has been established through tripartite collaboration of Ministry of Agriculture and Farmers Welfare, Government of India, Government of Israel and State Government of Mizoram.
- During February 2018, Legislative Assembly Elections were held in three North Eastern States - Tripura, Meghalaya and Nagaland. Counting for all these Legislative Assembly Elections was held on March 3, 2018.
- Tripura State Legislative Assembly election, 2018 was held

on February 18, 2018 for 59 out of 60 seats.

- *Meghalaya State Legislative Assembly election, 2018 was held on February 27, 2018 for 59 out of 60 seats.*
- *Nagaland State Legislative Assembly election, 2018 was held on February 27, 2018 for 59 out of 60 seats.*
- *In Varanasi, overhead power cables are being taken off after underground lines have been laid for more than 16 sq km. Former Union minister of state for power and coal Piyush Goyal announced that the project would cost Rs 432-crore & line loss has reduced to 9.9% from 42.7%.*
- *Ministry of Communications has introduced the Cool EMS Service which is a one-way service from Japan to India with effect from 29th March that will allow Indian customers to import Japanese food items for personal use. Now, it is made available only in Delhi*
- *On March 26, 2018, Tamil Nadu Chief Minister K Palaniswamy, unveiled an insect museum at the Tamil Nadu Agricultural University in Coimbatore, which is the first of its kind in India. The lobby of this insect museum depicts the theme, "BUGS ARE KINGS".*
- *On 27th March 2018, Tribal Affairs Minister, Jual Oram launched “ E-Tribes” India includes www.tribesindia.com, www.trifed.in and Retail Inventory Software and M-commerce app in New Delhi. ‘Tribes India’ Banners were also launched at Amazon, Snapdeal, Paytm & GeM. Also TRIFED’s Handbook for Retail Trade and TRIFED’s quarterly magazine ‘Tribes Haat’ were inaugurated.*
- *The Ministry of Human Resources Development (MHRD) has approved 'Study in India' programme to attract foreign students to study in India. This programme has several objectives including doubling India's market share of global education exports from less than 1 percent to 2 percent and improving global ranking of Indian educational institutes.*
- *On March 22, 2018, External Publicity and Public Diplomacy Division of the Ministry of External Affairs*

(MEA) launched an initiative, 'Videsh Aaya Pradesh ke Dwaar' in Hyderabad,

- Telangana with an aim to bring the domain of foreign policy closer to the people.*
- Union Defence Ministry has released a draft policy aimed at promoting the domestic defence industry and positioning it to achieve a turnover of Rs 170000 crore in military goods and services by 2025. The aim is to make India self-reliant in terms of Defence Production and also to emerge as one of the top five manufacturers of defence platforms in the world.*
- On 23rd March to 1st April 2018, SARAS Aajeevika Mela 2018 is held Pragati Maidan, New Delhi. It is organized by DAY-NRLM (Deendayal Antyodaya Yojana – National Rural Livelihoods Mission).*
- On 26th and 27th March 2018, the 11th Rashtriya Rifles Biennial Conference 2018 was held in Nagrota, Jammu and Kashmir. The Conference was chaired by Chief of the Army Staff General Bipin Rawat.*
- On March 28, 2018, NITI Aayog CEO Amitabh Kant launched the baseline ranking for the Aspirational Districts based on published data of 49 indicators. Mr. Kant also announced that the 'Champions of Change' Dashboard (created by NITI Aayog in partnership with the Government of Andhra Pradesh) for real-time data collection and monitoring will be open for public viewing from April 1, 2018..*
- According to National Annual Rural Sanitation Survey (NARSS) 2017-18, about 77% homes in rural areas of India have got toilets and over 93% households in villages have access to toilets are using them. It is selected under the World Bank support project to the Swachh Bharat Mission Gramin (SBM-G).*



UPCOMING EVENTS

UPCOMING EVENTS IN INDIA

April 2018

Elysian 2018, Corporate Event, Janki Devi Memorial College, New Delhi

Start date: **4th April 2018** End date: **4th April 2018**

Place: **Janki Devi Memorial College, New Delhi**

67th Milestone 2018, Techno-Cultural-Management Fest, BML Munjal University, Gurgaon, Haryana

Start Date: **5th April 2018**, End date: **7th April 2018**

Place: **BML Munjal University, Gurgaon, Haryana**

Tejas 2k18, ABES Engineering College, Fest, Ghaziabad, Uttar Pradesh

Start date: **5th April 2018**, End date: **6th April 2018**

Place: **ABES Engineering College, Ghaziabad, Uttar Pradesh**

MIRaaTH'18: BATTLE OF BANDS, Annual Cultural Fest THE MUSIC COMPETITION, Delhi University

Start date: **3rd April 2018** End date: **3rd April 2018**

Place: **Delhi Law Centre-1, New Building, Faculty of Law, University of Delhi.**

Program Educational Objectives

Within a short span of time after graduation, the graduates shall:

PEO1: Graduates of the program will be able to apply fundamental principles of engineering in problem solving and understand the role of computing in multiple disciplines.

PEO 2: Graduates will learn to apply various computational techniques & tools for developing solutions & projects in real world.

PEO3: Be employed as computer science professionals beyond entry-level positions or be making satisfactory progress in graduate programs

PEO4: Demonstrate that they can function, communicate, collaborate and continue to learn effectively as ethically and socially responsible computer science professionals.

Program Specific Outcomes (PSO)

By the completion of program the student will have following Program specific outcomes.

1. **Foundation of Computer System:** Ability to understand the principles and working of computer systems.

2. **Foundations of Software development:** Possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of programming language and open source platforms.

3. **Foundation of mathematical concepts:** Ability to apply mathematical methodologies to solve computation task, model real world problem using appropriate data structure and suitable algorithm.

4. **Applications of Computing and Research Ability:** Ability to use knowledge in various domains to identify research gaps and hence to provide solution to new ideas and innovations

Department Mission and Vision

MISSION

- To promote technical proficiency by adopting effective teaching learning processes.
- To provide environment & opportunity for students to bring out their inherent talents for all round development.
- To promote latest technologies in Computer Science & Engineering and across disciplines in order to serve the needs of Industry, Government, Society, and the Scientific community.
- To educate students to be Successful, Ethical and Effective problem-solvers and Life-Long learners who will contribute positively to the society.

VISION

To be recognized as a Centre of Excellence imparting quality education and creating new opportunities for students to meet the challenges of technological development in Computer Science & Engineering



MEET THE TEAM

CHIEF EDITORS

ANURAG MISHRA

AYUSHI VARSHNEY

ANJALI SARDANA

GAUTAM KUMAR

TEAM LEADERS

HARSHIT GUPTA

REEDAM CHAUDHARY

VRINDA SHARMA

PRADEEP YADAV

NEETISH SINGH

DEEKSHA KHURANA

COORDINATORS

SHEETAL SRIVASTAVA

RISHABH GUPTA

RISHABH CHAUDHARY

SHAGUN SAMANT

SHRADDHA SINGH

DIVYANSH