



PANIMALAR INSTITUTE OF TECHNOLOGY (JAISAKTHI EDUCATIONAL TRUST)

Department of Computer Science and Engineering

Accredited by NBA

BITS & BYTES' 19



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ABOUT THE COLLEGE

Panimalar Institute of Technology started by **Jaisakthi Educational Trust** focuses on disseminating knowledge coupled with discipline and ethics. It is a Christian Minority Institution and a self- financing engineering college with five streams viz. CSE, IT, ECE, EEE and MECH at present. This institution is affiliated to Anna University meets the guidelines of AICTE, New Delhi in all aspects. Among the five departments, CSE, IT, ECE and EEE departments are accredited by National Board of Accreditation (NBA), New Delhi. Our college is a combination of a world class infrastructure built upon the greatest faculty strength combined with a pictures environment to chisel the finest minds into the most capable future generations of India. It is located in Poonamallee, not far away from Chennai city limits.

Our institution is likely to expand its sphere in other facilities also. The institution takes care to impart updated and high quality technical education throughout the year. Special care is taken in the matter of students becoming qualified as well as competent to face the challenges of the leading corporates in the present world of tough competition. Every effort is taken to transform the students into well rounded personality with strong confidence and sound character making no compromise in perfection, morality, dedication and commitment.

Students : Our well-equipped Engineers

Staff : Our means

Industry and Profession : End users



INSTITUTE

VISION

An Institution of Excellence by imparting quality education and serve as a perennial source of technical manpower with dynamic professionalism and entrepreneurship having social responsibility for the progress of the society and nation.

MISSION

Panimalar Institute of Technology will strive to emerge as an Institution of Excellence in the country by

- Providing state-of-the-art infrastructure facilities for designing and developing solutions for engineering problems.
- Imparting quality education and training through qualified, experienced and committed members of the faculty.
- Inculcating high moral values in the minds of the Students and transforming them into a well-rounded personality.
- Establishing Industry Institute interaction to make students ready for the industrial environment.
- Promoting research based projects/activities in the emerging areas of Engineering & Technology.

ABOUT THE DEPARTMENT

The Department of Computer Science and Engineering was established in the year 2008 and accredited by NBA, with well-equipped, spacious and state-of-the-art infrastructure. The department strives to impart best training to the students on Computer Science. The department has dedicated and qualified faculty besides good infrastructure for computing. The department has world-class laboratories to serve the needs of the faculty to enrich teaching and research activities and also to provide an experimental foundation for the students to experience learning with practical dimensions. Research at the department is nurtured through various sponsored technical program to keep pace with the current technological trends. The department is an active member of the professional bodies like Computer Society of India – Chennai Chapter, IEEE Computer Society and ICT Academy. CSE department is fabulous in maintaining Industry- Institute interaction with the aim of imparting Short-Term Courses, Workshops, Certification Courses, Faculty Development Program and Sponsored Projects at our campus. The major objectives of the department are to assist and develop top quality professional engineers and technicians required by the industries and other organizations.

- **Department of CSE creates new knowledge and opportunities to the students for learning through the process of research and enquiry.**
- **Department of CSE inculcates its students to recognize and value communication as the tool for creating new understanding, collaborating with others and furthering their own learning.**



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

VISION

To evolve as a Centre of Excellence in Computer Science and Engineering to compete with latest trends and also persistently strive to inculcate the requisite skills in research, innovation and entrepreneurship, making the budding engineers as competent professionals to take up any global challenge.

MISSION

- To produce high-quality Computer Engineers with employable skills and professional standards by imparting theoretical and practical training.
- To collaborate with industry in pursuit of education and research, leading to the development of commercially-viable technologies.
- To develop an overall personality of the students by encouraging them to participate in co-curricular and extra-curricular activities.
- To train teachers capable of inspiring the next generation of engineers and researchers.
- To develop research interest among the student community.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**PROGRAM EDUCATIONAL OBJECTIVES (PEOs)****PEO-I:**

To excel in Computer Science and Engineering program to pursue their higher studies or succeed in their profession through quality education.

PEO-II:

To acquire knowledge in the latest technologies and innovations and an ability to identify, analyze and solve problems in computer engineering.

PEO-III:

To become recognized professional engineers with demonstrated commitment to life-long learning and continuous self-improvement in order to respond to the rapid pace of change in Computer Science Engineering.

PEO-IV:

To be capable of modeling, designing, implementing and verifying a computing system to meet specified requirements for the benefit of society.

PEO-V:

To possess critical thinking, communication skills, teamwork, leadership skills and ethical behavior necessary to function productively and professionally.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

PROGRAM OUTCOMES (POs)

On completion of the B.E (CSE) degree the Computer science and Engineering graduates will be able to

PO1.Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/Development of Solutions:Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4.Conduct Investigations of Complex Problems:Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5.Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6.The Engineer and Society:Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7.Environment and Sustainability:Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9.Individual and Team Work:Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10.Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11.Project Management and Finance:Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**PROGRAM SPECIFIC OUTCOMES (PSOs)**

PSO1: An ability to apply knowledge of software development concepts to select and apply software development processes, programming paradigms, and architectural models appropriate to different applications.

PSO2: Familiarity with various programming languages and paradigms, with practical competence in atleast three languages and two paradigms.

PSO3: An ability to demonstrate knowledge in theoretical computer science and in related areas such as algorithm design, compiler design, artificial intelligence and information security.



RIP.Dr.JEPPIAAR, M.A., B.L., Ph.D.,
Founder & Chairman

Our Founder & Chairman Late Dr. Jeppiaar, M.A., B.L., Ph.D., deserves the due homage of immortals for he lives and reigns in the hearts of many through his service by education.

He had a vision to offer quality based technical education to those who were deprived due to poverty, social status and many other such factors. He was committed to bring equality of opportunity despite a student coming from rural background.

Inspite of the college's success in terms of glory and money, his motive was not into making profit out of education instead; he has been the eye opener for many who lived in the darkness of illiteracy. His ardent desire was to give back to the society that nurtured him.

With his blessings we are happy to release this magazine **Bits and Bytes '19** from Department of Computer Science and Engineering for the academic year 2018-2019.

MESSAGE FROM THE SECRETARY



**Dr.P.Chinnadurai,M.A., Ph.D.,
Secretary and Correspondent
Panimalar Institute of Technology**

Greetings! Education is the development of individual according to one's needs and demands of society, and contributes to building socio-economic infrastructure of nation. Our college is committed to bring about social empowerment through dynamic education. The efforts taken to provide education to the masses have made our country emerge as an economic power. We feel proud to act as a contributor of this social transformation. Our college has been playing a crucial role in the development of academic excellence. Its policies are aimed at overall development of the students. Beyond providing a sound education, we wish to provide our students a holistic learning experience for life. I sincerely appreciate all the members of staff and students who have contributed besides their academic activities and those who have taken strenuous efforts in bringing out the magazine successfully. I wish it to be a continuous process. Wish you Good Luck!

MESSAGE FROM THE DIRECTOR



**Mr.C.Sakthikumar,M.E.,
Director, Panimalar Institute of Technology**

It is the matter of great happiness to see the success of the CSE Department's magazine BITS & BYTES '19. The humans have been exchanging the ideas for acquiring and using the knowledge. This exchange of idea was initially limited to tribes or the people living in close vicinity. With the advent of the technology the horizon of this sharing expended and today internet has made the whole world as a single tribe where one can have communication irrespective of the distance. Though the technology has made the life simpler for the mankind but at the same time it has made the life difficult for the budding engineers who have to learn new technologies every day. This learning can be possible only through sharing. This sharing need not be only about the contemporary research but also about the usage of the current technologies. I hope this magazine will provide a platform where the students and faculties can discuss the mechanisms of using the state of art technologies and refine their skills.

MESSAGE FORM THE PRINCIPAL



**Dr.T.JAYANTHY, M.E., Ph.D.,
Principal, Panimalar Institute of Technology**

It gives me pleasure to know that the Department of Computer Science and Engineering has come out with magazine BITS & BYTES '19. The technology is changing at a very rapid pace and the only way one can remain acquainted with the recent technology is through sharing. This magazine will help the students and the staff of the CSE department to share and discuss the state-of-the-art technologies. It will also help the students and faculty members to improve their writing skills and also provide an opportunity to ventilate their feeling and thoughts. I appreciate the CSE department for its initiative and congratulate students and faculty members who have made contributions to make this effort fruitful.

MESSAGE FROM THE HEAD OF THE DEPARTMENT



DR. V. SUBEDHA, M.Tech., Ph.D.,
Professor & Head

At this outset let me extend my warm greetings and best wishes to each and every one for yet another magazine BITS & BYTES' 19. The CSE department has reached a landmark since its inception in the Year 2008. Apart for the growth in intake and infrastructure, we have been able to improve the quality of education provided to the students.

Moreover, it gives me immense pleasure to release the current issue of our magazine BITS & BYTES and I extend my hearty congratulations to the Editorial Board and the faculty members for their laudable venture in bringing out this issue. Department magazines are the means to show the skills of the students in their respective fields. We are proud to have such students among us who, I am sure, will significantly contribute towards the development their own career, the department, the institution and the entire nation.

With this edition we could revitalize CSE department and show the way ahead for its future growth and expansion. Keep up the Good Work.

CEO TALK.....

“People should have values, so by extension, a company should.”



Tim Cook
CEO, Apple

As CEO of Apple Tim Cook has been an outspoken leader on the fight for equal rights and privacy, among other topics.

Most recently, and in an exclusive interview with CNBC's Jim Cramer of "Mad Money," Cook discusses his new focus as CEO: to have Apple create jobs for U.S. workers.

Here are two main takeaways for leaders from Cook's interview:

1. Use your position to benefit others in need

Cook makes it clear in his recent interview that he's using his position to help American workers.

"You know, a lot of people ask me, 'Do you think it's a company's job to create jobs?' and my response is a company should have values because a company is a collection of people," he says. "And people should have values, so by extension, a company should."

Cook continues to discuss his philanthropic bent as a leader. "One of the things you do is give back. So how do you give back?" he asks, rhetorically. "We give back through our work in the environment, in running the company on renewable energy. We give back in job creation.

"And so if you look at job creation in particular, we've now created two million jobs in America," he adds.

"Two million."

But for Cook, that's not enough. In fact, he wants to use his post as CEO to make even more jobs available to U.S. workers.

"We ask ourselves, 'How can we increase it further? How can we create even more?'" he says. "We're not satisfied with just two million. And so you can bet we're going to be hiring thousands of employees in the future."

Overall, Apple says it's using \$1 billion for a fund to create more advanced manufacturing jobs in the U.S.

2. Be humble

During his conversation with Cramer, Cook also talked about how lucky he feels to be in the top spot at Apple, a post he took in 2011 from Steve Jobs.

"I love it," he says. "You know, there's no bigger privilege in the world than to work at this company at this moment in time. And to be able to work with all the great people I get to work with every day."

Being humble is a key trait for successful leaders, according to Airbnb's CEO Brian Chesky. "Take a step back and have some humility," he tells CNBC.

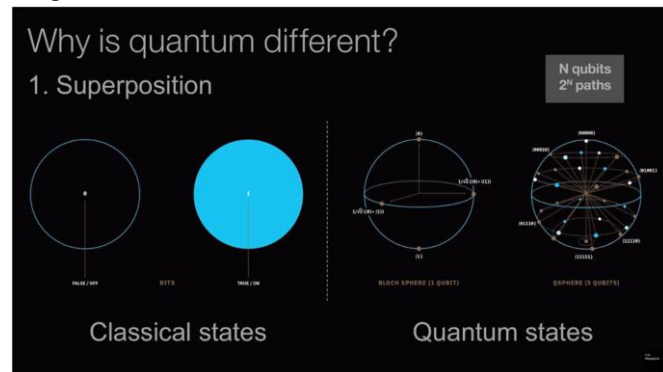
"It was beyond my wildest imagination," says Cook about being named CEO, "and there's not a day that goes by that I don't thank God for it."



Quantum Computing

What is Quantum Computing?

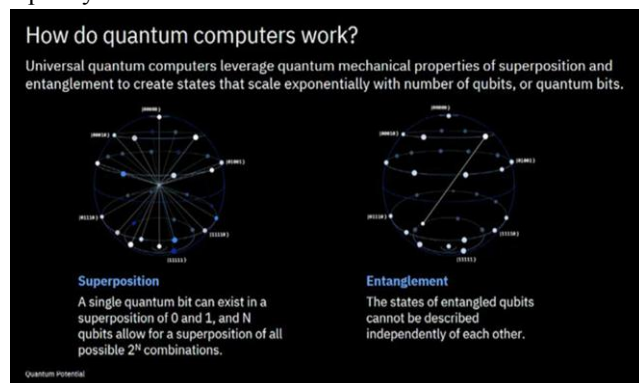
Quantum Computing is the set of computations based on quantum principles such as superposition, entanglement and tunnelling. A Quantum Computer is a machine that performs quantum computing. A traditional digital computer encodes the data into bits (0s and 1s) which is in either one of these two states. Whereas in quantum computer the data is encoded into qubits (quantum bits) or in the superpositions of the states, i.e. quantum computers can manipulate enormous combinations of states at once. A Quantum Turing Machine (QTM) is a theoretical example of a quantum computer.



The Concept of Superposition and Entanglement

Quantum Superposition is a fundamental principle of quantum mechanics. It states that any two likely quantum states can be added together and the result will be another valid quantum state.

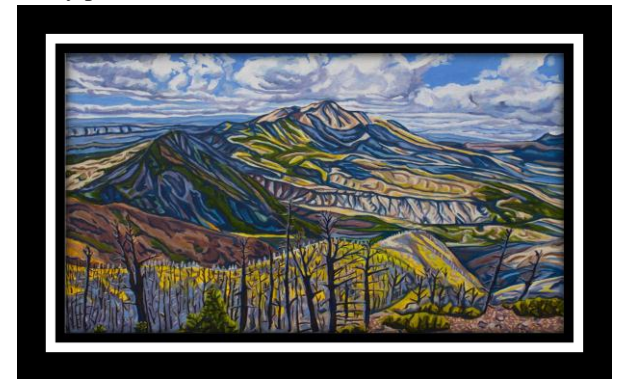
Entanglement is an extremely strong correlation that exists between quantum states — so strong, in fact, that two or more quantum states remain perfectly correlated even if separated by great distances. This seemingly impossible connection inspired Einstein to describe entanglement as “spooky action at a distance”.



In Laymen Terms

Let us consider an example, imagine you are assigned a task to determine the lowest point in a valley. A traditional computer will initially ask you to stand in a position and move downwards until you reach the lowest point on that position. This is efficient for a smaller area. What if there are multiple positions in which you have to investigate? The traditional one would suggest a trial and error method for one position at a time and then cumulatively record the lowest valley point.

Whereas a quantum computer will initially place you in multiple positions at the same time (imagine that you have been cloned to multiples of yourself) and allow you to walk to the lowest point of each positions. It will also allow you to walk through the valley instead of climbing it to reach the point. Finally it will correlate all the possible values of the valley point that leads to the lowest one



Why it Matters to Us?

Computers are invented to compute complex calculations faster than a human. Same is applicable to quantum computers except that they are invented for more complex, intricate and so-called unsolvable problems by an approach to combine the principles of quantum physics and computer science. Thus, it is believed that these machines are capable of handling enormous dynamic data at finger tips thereby solving the complications involved in such computations.



How is it Helpful?

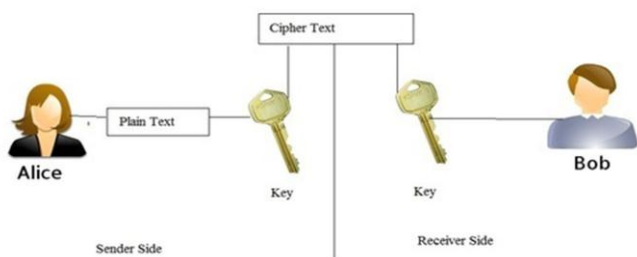
Quantum computers are highly reliable to solve complex factoring in cryptography. But here arises the question, who wants to solve factoring of large numbers? To understand this let us consider the example. During online transaction the concerned webpage would ask you to enter your credit card number for the transaction to proceed. Now the webpage itself will provide a 'public' key to encode the credit card number which is accessible by anyone.

This key actually is the product of two very large prime numbers, known only to the seller. The only way anyone could intercept your information is to know those two prime numbers that multiply to create the key. Since factoring is very hard, no eavesdropper will be able to access your credit card number and your bank account is safe. Unless, that is, somebody has built a quantum computer with an intelligent algorithm to decode it.

**Cyber-Security in Quantum Computing**

Does this mean that a quantum computer can hack into my privacy? No, cryptographic techniques are not completely vulnerable to threats but some will do. Whereas, quantum mechanics provide a highly secure technique.

Let us imagine Alice and Bob share some sensitive messages. They are aware that these sensitive messages should be hidden from others view and so they encrypt these messages while transmitting. But they both must share a common key so that at the reception point they can decode the messages. In classical cryptography the key can be hacked by someone. But in quantum computing the computer will generate completely random keys and deliver at a distance. This process is termed as Quantum Key Distribution (QKD).

**Pushing the Boundary**

Quantum computing has enormous futuristic applications. Quantum computers could empower machine learning by enabling AI programs to search through these gigantic datasets concerning medical research, consumer behavior and financial markets—and make sense of them. With quantum computers we could expect a machine to be able to handle almost innumerable permutations and combinations, which could advance system design and analysis in massive ways.



With quantum computers, we can create, simulate and model molecular structures. Researchers at Harvard University used a D-Wave One quantum computer to solve the puzzle of how some proteins fold in 2012. The systems could be used for complex financial modeling and risk management within the financial industry as well. Quantum computing could be used to find “new ways to model financial data” and isolate “key global risk factors.”

Pioneering the Future

Though quantum computing seems no closer to a perfect one, some of the industries and institutions have already sensed its importance and have been implementing the technology.

Optimization

Roswell Park Cancer Institute
Booz Allen Hamilton
Volkswagen Group
Recruit Communications

Machine Learning

QxBranch
Los Alamos National Lab
IQBit
NASA

Materials Simulation

Los Alamos National Laboratory
Volkswagen
D-Wave

Conclusion

Quantum computing is not far away. It is already in use. Even though a fully functional quantum computer might seem to take years, the basic ones provide fascinating results. Quantum computing seems to be a ground-breaking challenge to the engineers and scientists but promises a better efficient computing experience the human being has ever witnessed.

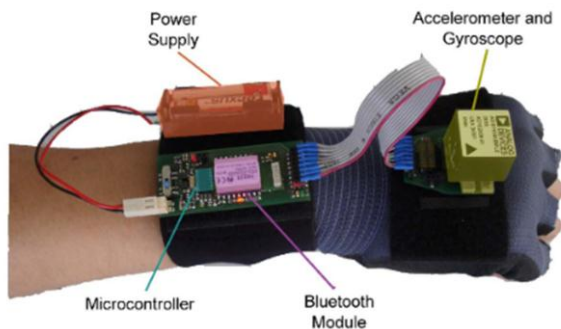
BY
PRATHISTAA.G
III Year CSE

Air Writing Gloves

Typing text messages on a mobile phone via the tiny soft keyboard is very cumbersome. How about simply writing your words in the air? Yes, This idea drove and developed as "air writing gloves". This is developed by computer scientist Christoph Amma.

The increasing number of gesture-control technologies being introduced these days means that time may actually come when you can control your whole house with just the wave of a hand. Lets you control Macs and PCs through gesture is the "Airwriting" glove.

A glove that gives you the power to compose emails and text messages or any other type of mobile app by writing on air. The glove, developed by researcher from the [Karlsruher Institute Of Technologie in Germany](#), contains sensors that record hand movements. A computer system captures and decodes those movements. It has the capacity to differentiate between gestures meant to spell words and random, unrelated gestures, so you can wear the glove just fine and air write whenever you like while doing something else



The program incorporates statistical models of the unique signal patterns for every letter in the alphabet and can account for differences in individual writing styles. "The inclusion of the motion signals in the glove is now technically relatively simple, but the main task for them has been to find a method on how to translate the signals into written letters. All movements that are not similar to writing, such as cooking, doing laundry, waving to someone, are ignored so that the system runs in the background without interpreting every movement as computer input.

All movements that are not similar to writing, such as cooking, doing laundry, waving to someone, are ignored so that the system runs in the background without interpreting every movement as computer input. Air writing gloves fit on the back of the hand. It has motion sensors technologies used in modern smart phones and signals are just record and transmitted via Bluetooth



The system can recognize complete sentences written in capital letters and presently has a vocabulary of 8000 words. But, since the glove is just a prototype, it's nowhere near perfect. It has an 11 percent error rate that goes down to 3 percent the more you use it and the more the system gets used your movements.

Google as awarded the creator Christoph Amma Google Faculty Research Award worth \$81,000 in hopes that it could help to developed this system

BY
VALETI.PRAVEENACHOWDARY
III Year CSE

LIFE BEFORE THE COMPUTER



a **memory** was something that you lost with age
 an **application** was for employment
 a **program** was a TV show
 a **cursor** used profanity
 a **keyboard** was a piano
 a **web** was a spider's home
 a **virus** was the flu
 a **cd** was a bank account
 a hard drive was a long trip on the road
 a **mouse pad** was where a mouse lived
 and if you had a **3-1/2 floppy**
 ... you just hoped nobody found out.

How to Have a Better Conversation

Talking well and conversing well are not the same thing. We often make the mistake of thinking someone is a good conversationalist because they're funny, witty or tell good stories, but that's what a stand-up comedian does well, and you'd hardly describe an evening at a comedy show as a conversation.

LEARNING BY DOING

"Execution without leadership won't get you far, but leadership without execution will get you nowhere. To be successful you need to have both ". There are some steps for becoming a better doer.

2. PRODUCTIVITY:

The first step to improving your execution is to increase your productivity. To be effective what you are doing you need to be efficient at it. there are plenty of resources out there with tips to make you more productive. Whether it's the commodore time management method or single-tasking works for you and make it a habit. Remember, though, the increasing the productivity just laying the foundation. It will give you the time, energy and focus to do, but it won't make you good at it. For that, you need practice.

3. PRACTICE:

To be good at anything, whether its ship building or surgery, public speaking or programming, you need to practice. There's no way around it. I am not saying you need to spend an hour each evening doing timed drills, but to be a better doer, you need to do more. The more experience you have with a task, the variants of the base case you encounter, the greater your understanding will be of the entire system. This increased understanding not only helps you better execute the current increased understanding not only helps you better execute the current task but also helps you solve the next problem you encounter. "Practice makes perfect" may be a cliché, but that doesn't mean it isn't true.

4. LEARNING:

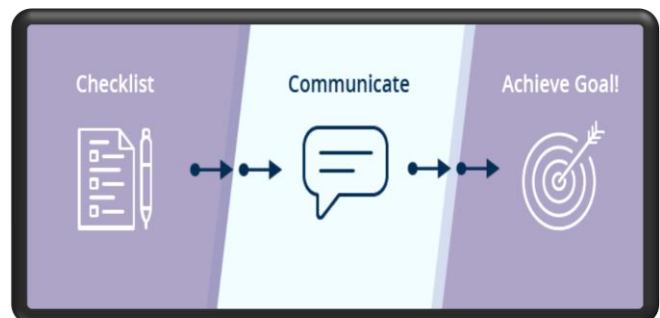
While learning -by-doing is 100 % necessary, you can also grow your knowledge base in other ways. Read, trade journal, internet forums and academic papers. Earn a certificate or enrol in a course.

1. IMPROVEMENT:

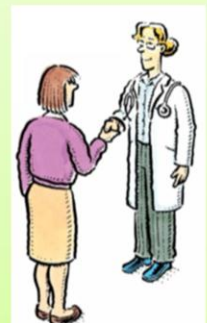
The best way to apply new knowledge is to improve the way you do things. When you take the solid base of experience you've acquired, you have all the ingredients necessary for improvement. That's not to say it will happen automatically; in fact, this is where you need to put in the most effort. This is where you go from being a good doer to a great doer- by actively working to get better at what you're doing.

BY

GUNDLURU SAI MEGHANA REDDY
III Year CSE



"Effective Communication requires more than an exchange of Information. When done right, communication fosters understanding, strengthens relationship, Improves teamwork, and build trust."



Julia vs. python

Which programming language should you learn?



Julia vs Python: Which one is the best programming language? Which one should I use for data science? Which one between the two is more versatile? These are just some of the questions that you may be asking yourself. In this article, we are going to draw a comprehensive comparison between Julia and Python programming languages.

For years, Python has been winning the hearts of programmers. In fact, it is currently rated among the most popular programming languages. One of the reasons is its simplicity and most beginners use it as a perfect landing platform. Its versatility makes it an ideal language for experienced developers.

Apart from developing normal applications, Python is a preferred programming language for data machine learning and data analysis. While Python is boasting of a massive popularity, Julia is also making some significant strides. The most recent ranks placed it among the top 50 popular programming languages. Some people prefer it over Python.

Julia vs Python: Comparison Julia Programming Language



Julia programming language was unveiled in 2012 and was meant to address the shortcomings of other programming languages including Python. It was also designed to utilize the strongest aspect of other programming languages such as speed and openness. The language is mainly used for data processing and scientific computing.

Unique Features of Julia Language:

1. It is compiled and not interpreted: Julia is categorized as a just-in-time (JIT) and is compiled by the LLVM framework. Since it is not interpreted, Julia is a fast programming language. Its speed can be compared to the ones of C language.
2. It has a straightforward syntax that can be understood by the newbies. Its syntax is quite similar to that of Python.
3. Julia is a dynamically typed language. You don't have to specify or sign the variables.
4. Supports metaprogramming: A Julia program can be used to create other Julia programs which will have their unique codes.
5. Can access libraries of other programming languages such as C, Fortran, and Python.

Key Features of Python



1. Python is an object-oriented high-level programming language.
2. Like Julia, Python is also a dynamically typed language.
3. Python is an interpreted language, there is no need to compile it.
4. Like C, Python is an open source language. You can download and use it freely.
5. The language is highly portable. It can run on any machine.

Advantages of Julia Language over Python Language

Here are the main advantages that Julia has over Python language.

1. Speed

In its default state, Julia language is still faster than Python. This is possible because Julia uses both the type declarations and JIT (Just in time) compilation. The unoptimized versions of Python programming cannot match the speed of Julia. However, you can boost the speed of Python by using third-party compilers such as PyPy and other external libraries.

2. Automatic memory management

With Julia, you won't be overburdened with the tasks of freeing and allocating memory. The language does these tasks for you. The language provides effective measures for garbage collection. However, this is also a feature of Python language.

3. Math-oriented syntax

It is a common knowledge that Julia language was specially created for the scientific computations which are used in a mathematical environment. The syntax of this programming language is quite similar to mathematical formulas that are normally used for other mathematical operations other than just computing. For this reason, Julia can be easily understood by non-programmers.

4. Parallelism

We cannot deny the fact that both Julia and Python utilize parallelism for resource management. However, Julia is less heavy in terms of the resources that it uses as compared to Python.

Advantages of Python over Julia

Here are some of the reasons that can make you choose Python over Julia:

1. Julia is still young

Julia language was developed in 2009 and released in 2012. It is still a new language with very few features. On the other hand, Python language has been in existence for decades. It is backed by years of research and development.

2. Compatibility

Python is supported by more third-party libraries and software than Julia.

3. Array index starts from 1

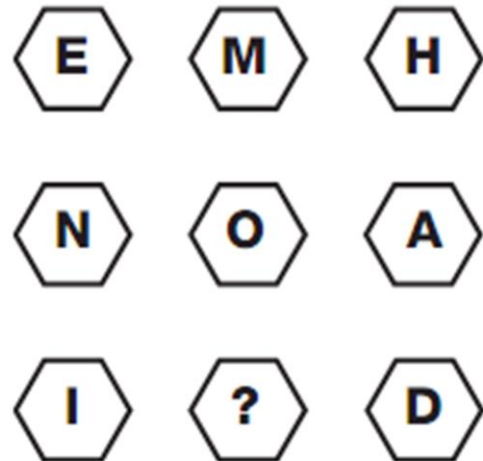
Unlike Python, Julia arrays are 1-indexed. This means that the first element in an array is 0 (zero) instead of one. This feature puts Julia at loggerheads with most mathematical applications.

4. Community

The fact that it is older than Julia means that it enjoys the backing of a large community. On the other hand, Julia has a small community which is still at the infancy stage.

It's a time to Relax!!!!!!

Which letter replaces the question mark



Answer :M

Explanation: Working in rows, add together the numerical values of the left and right hand letters to give the numerical value of the central letter.

Which letter replaces the question mark?



Answer :K

Explanation: As you move down, the numerical value of the letters follows the sequence of Prime Numbers.

How to be Safe in Online?????....

In General:

- Thieves only need to collect a few pieces of information before they have enough to steal your identity.
- A longer password is more secure than a short one. Don't use the same password for everything – this makes it much too easy for criminals.
- Protecting your PIN numbers, passwords, credit card details and banking information is priority number one.
- Keeping children safe online doesn't always have to be about control and restrictions.
- Invest in a top-notch antivirus system to reduce future problems. This is particularly important for computers used in the running of your business.

Common Internet scams:

- ✓ **The 'you've won the lottery' scam**
- ✓ **The 'your account will soon be deactivated' scam**
- ✓ **Lonely hearts scams**
- ✓ **Nigerian inheritance scam**
- ✓ **The 'take our survey' scam**
- ✓ **The 'work from home and make thousands a week' scam**

These scams constitute just a sampling of the ways unscrupulous folks might try to extract money from you online. There are many others, but you can avoid most of them with simple vigilance.

Internet safety rules:

Keep these 10 basic Internet safety rules in mind and you'll avoid many of the nasty surprises that lurk online for the careless.

1. Keep Personal Information Professional and Limited
2. Keep Your Privacy Settings On
3. Practice Safe Browsing
4. Make Sure Your Internet Connection is Secure
5. Be Careful What You Download
6. Choose Strong Passwords
7. Make Online Purchases From Secure Sites
8. Be Careful What You Post
9. Be Careful Who You Meet Online
10. Keep Your Antivirus Program Up To Date

If Found Looted:

If you are the victim of identity theft, what should you do?

The licensed investigators at Kroll Fraud Solutions offer the following general advice for a quick response to immediate signs of identity theft. Depending on your specific case and situation.

1. Analyze Your Situation

If you are a victim, your case will be in the following types of fraud: credit, banking, taxes, employment, government benefits, medical, and criminal.

2. Place a Fraud Alert with a National Credit Reporting Agency (CRA)

Contacting one of the three CRAs reduces the risk of accounts being opened in your name without your authorization. If you place the alert with one agency, they will notify the other two for you.

3. Check Your Financial Accounts

Close any accounts that were opened without your permission, and close any of your existing accounts that have seen unauthorized activity.

4. Check Your Computer for Viruses

If you use your computer to access sensitive online accounts, a computer infected with malicious computer programs could allow a hacker to steal sensitive data you may be typing to manage online transactions, such as bank, credit card and other sensitive identification information. If you believe your computer is infected, run your anti-virus program to scan for any viruses that need to be removed.

5. Secure Your Proof of Identity Expect that you'll be required to complete and submit an affidavit and provide proof of your identity.

6. File a Complaint with the Federal Trade Commission (FTC)

Share information about your situation with the FTC so they can collect it for possible use by law enforcement across the country. You may [file online](#) and print a copy to show to the police when you file your report (see step 7). You may also file a complaint by calling the FTC Identity Theft Hotline at (877) IDTHEFT, or (877) 438-4338.

7. File a Police Report

The police may only take the report as a courtesy and not pursue the matter. However, this step is still helpful to you, because you will need proof you reported the matter to the police. Preparing the FTC ID Theft Complaint beforehand will help you organize the pertinent information.

8. Keep a Record of Your Actions

Log the steps you take to address the situation. Include numbers called, names of people you talked to, dates of calls, faxes and mailings. Keep copies of all correspondence, affidavits, reports, etc.

9. Order Credit Reports for Review

If you've placed a fraud alert, confirmation letters from the CRAs will tell you how to order a free report. If you chose not to place a fraud alert, use the Annual Credit Report Request Service to obtain a free copy from each CRA. Federal law mandates that one free report from each CRA is available once every 12 months.

10. Don't Ignore the Activity

You must take action to prove you are the victim and that you are not the party responsible for the suspicious activity in question.

For more information on what to do if your identity has been stolen, check out the Federal Trade Commission's "[Take Charge: Fighting Back Against Identity Theft](#)," which provides excellent basic information.

Immediate actions to do:

If you find that you've been a victim of identity fraud, the FTC recommends you do three things immediately:

- ✓ Contact the fraud departments of each of the three major credit bureaus, and ask them to flag your account so no new charges can be made without your approval.
- ✓ Alert all the financial institutions with which you have accounts and close anything that has been accessed illegally. Put new passwords on the ones you keep open, and password-protect your new accounts with different codes.
- ✓ Report the crime to the appropriate police department and get a copy of the report for your files.

Security in social media:

1. Use a strong password. The longer it is, the more secure it will be.
2. Use a different password for each of your social media accounts.

3. Set up your security answers. This option is available for most social media sites.

4. If you have social media apps on your phone, be sure to password protect your device.

5. Be selective with friend requests. If you don't know the person, don't accept their request. It could be a fake account.

6. Protect your computer by installing antivirus software to safeguard. Also ensure that your browser, operating system, and software are kept up to date.

7. Remember to log off when you're done.

8. October is Cyber Security Awareness Month!

9. The number of social networking sites and tools is exploding. Social networking is the *killer app* of the Internet for everyone – not just the texting teenybopper crowd. Such sites have breached the walls of the corporate firewall, are a part of our most important smartphone apps, are a vital tool for any serious job search, and are the new way to connect with current and new friends.

TIP 1 – Beware of TMI(to much info): the five things you should never share

1. Birthdate, 2. Home Address, 3.Home Phone Number, 4.Adhaar card number, 5.Of course, you should protect all of your passwords, PIN numbers, bank account and credit card information.

TIP 2 – Customize privacy option

by
M. PURUSHOTHAMAN
S. SUNAICHANDRAN
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Don't Use – Recently Banned Apps in Google Play Store

❖ SARAHAH APP



Sarahah app, the popular anonymous messaging app that gained popularity last year, has been taken off Google Play Store and Apple's App Store. It is being claimed that the app, which allowed users to message each other without revealing their identity was being used by bullies to abuse people. The app has been banned after a petition by Katrina Collins went viral. According to Collins, the app was being used to send horrifying messages to her daughter. The petition was signed by over 4,50,000 people many of whom shared their own experiences of abuse on the platform.

❖ TUBEMATE



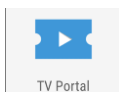
TubeMate enabled users to directly download YouTube videos on their smartphones. What made TubeMate better was the fact that you didn't even have to watch the video to download it. However TubeMate was taken down from the Play Store because apparently Google wasn't too happy with users downloading videos from YouTube. And with YouTube now allowing users to download videos for offline viewing, TubeMate getting banned isn't that much of a problem anymore.

❖ CM INSTALLER



CM Installer or CyanogenMod Installer was an app that allowed users to install CyanogenMod ROMs on their devices without having to root them. The app was removed from Play Store for unknown reasons.

❖ TV PORTAL



People who love watching TV series like TV Portal. The app enabled users to stream TV shows directly on their Android devices. The extensive library of shows offered made the app even better. However, Google banned TV Portal from the Play Store because of copyright issues.

❖ ADAWAY



STOP THE ADS!
PROTECT YOUR DEVICE!
INCREASE BROWSING
SPEED!
...AND MORE!

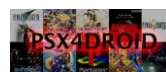
As the name suggests, AdAway helped users get rid of all those annoying ads on their Android devices. It was among the most popular ad-blocker apps, till it was removed by Google from the Play Store.

❖ GROOVESHARK



This is probably the most controversial app in the list, having been published and pulled from Google Play Store multiple times. Grooveshark was a Pandora alternative to Pandora for those who don't live in the US. However, Google banned it from the Play Store after receiving a complaint from the Recording Industry Association of America. Legal battles followed, and only ended with Grooveshark closing down their business.

❖ PSX4DROID



A PlayStation emulator, PSX4Droid allowed users to play PlayStation games on their Android devices. Needless to say, it gained immense popularity quickly. Due to legal troubles and copyright issues, Google kicked PSX4Droid out of the Play Store.

❖ RUSH POKER



Among the most popular gambling apps on Play Store, Rush Poker was banned from Google Play store for precisely that. The app was used to gamble with real money and under-age users made things worse.

❖ AMAZON UNDERGROUND



Amazon UnderGround is Amazon's version of Google Play Store. In other words, you can download various apps and games from Amazon UnderGround. Having this app on Play Store was against Google's policies, and hence it was taken off. However, it can still be downloaded from Amazon's website.

❖ VIPER4ANDROID



This equalizer app was aimed at music lovers. It enhanced the audio output of the phone, and made music sound much better. The Spectrum Extensions x86 Support, Speaker Optimization, Differential Surround / Haas Effect, Fidelity Control, Headphone Surround (VS), Auditory System Protection and more. However, the app was removed from Play Store because it required the device to root to function.

❖ **POPCORN TIME**

This app was aimed at those who love movies and TV series. It lets users download content to their systems to watch later. One can first watch the trailer, choose subtitles, video quality and then download the film or TV series they wish to watch on their torrent client. However, because downloading content in this manner is illegal, the app isn't available on Play Store.

❖ **F-DROID**

F-droid has a collection of apps that you cannot find on Google Play Store. This is because F-droid only has open-source apps something that Google doesn't allow on its platform. For this very reason, the app cannot be found on Google Play Store.

❖ **XPOSED FRAMEWORK**

This app let users customize their Android device exactly how they want. However, the app cannot function if the device is not rooted. It is for this reason that it cannot be found on Google Play Store.

❖ **LUCKY PATCHER**

This app removes ads, patching, license verification, modifying APPs, backup/restore and much more from other apps that you download. Needless to say it also needs a rooted device to function. Since Google keeps no apps on Play Store that require rooted devices, Lucky Patcher was no exception.

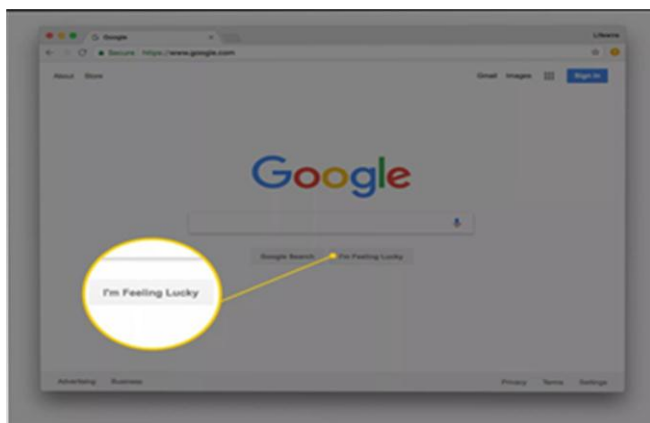
NEERAJ CHANDRAN
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GOOGLE||ELGOOG

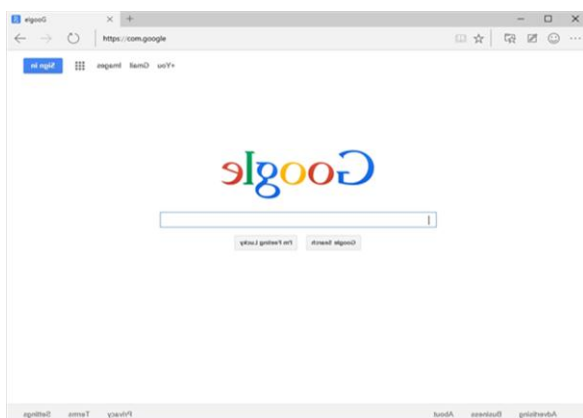
GOOGLE

- Google LLC is an American multinational technology company that specializes in Internet-related services and products
- Google was founded in 1998 by Larry Page and Sergey Brin while they were Ph.D. students at Stanford University in California. Together they own about 14 percent of its shares and control 56 percent of the stockholder voting power through supervoting stock. They incorporated Google as a privately held company on September 4, 1998. An initial public offering (IPO) took place on August 19, 2004, and Google moved to its headquarters in Mountain View, California, nicknamed the Googleplex.
- One of the most iconic features of the Google search screen is the I'm Feeling Lucky button that appears next to the Google Search button. It might save you some time.
- You know how regular Google works, right? You type in a phrase, press the Google Search button, and Google returns a results page that shows multiple websites matching your search phrase. The I'm Feeling Lucky button bypasses that search results page and goes directly to the first-ranked page for the search phrase you entered.
- Depending on your search query, often the first result is the best one, so clicking the I'm Feeling Lucky button saves you a few extra seconds parsing through the list of search results. Just click the button after you enter your search phrase.

How google's "I'm feeling lucky



- elgooG (Google spelled backwards) was a mirrored website of Google Search with horizontally flipped search results, also known as a "Google mirror". An unofficial elgooG website was created by All Too Flat "for fun", which started to gain popularity in 2002.
- elgooG is the "mirror site" is a site for us to see copies of other sites, it has the advantage of reducing network traffic or content available. elgooG spelled backwards is from Google, it is a mirror image of Google and a bit different than the original. But according to you using any web browser, the type of cell search backwards from right to left, the result of it will be visible to the rear. You can search for words or back, but it will knock the other way round.
- All Too Flat's elgooG site found practical use in the People's Republic of China after the domestic banning of Google, circumventing the Great Firewall.
- A whois request shows that the domain elgoog.com was registered to Google Inc. since 2000, but it is currently for sale.



Google tricks



DO A BARREL ROLL

- Do a barrel roll" has become a trending topic on Twitter and elsewhere, thanks to an Easter egg on Google Search. Type the phrase in Google, and the screen will tumble around (it's a barrel roll, after all).
- After that, do a barrel roll. People also search for do a barrel roll twice and do a barrel roll thrice but nothing gets executed, so don't do that it is waste of time.

ASKEW / TILT

- If you run a Google search for the word "askew", you may think you've somehow broken your monitor or telepathically adjusted your display settings. But really, Google has just shifted a few degrees – the same thing happens if you search for "tilt".

ZERG RUSH

- Type 'Zerg Rush' Into Google for a Pleasant Surprise. Google is giving us another reason to goof off on a Friday with an Easter egg related to the popular game StarCraft. If you type "Zerg Rush" into Google, the "O's" in Google take over the page.

GOOGLE GRAVITY

- Google gravity is one of the Google tricks. Watch Google fall to pieces with Google Gravity. You can even still search with google in pieces.

GOOGLE SPACE

- It is also like the google gravity but the page is displayed with zero gravity

GOOGLE SKY

- Like the Google maps which shows each and everything on the planet, Google sky is one which shows the map for the universe. It also has unique maps for the planet Mars and for the earth's only natural satellite The Moon.

PAC-MAN

- Pac-man was developed in the year 1980's. It is one of the stylized most popular arcade game of its time. It can now be played on the doodle of the google.



UNDERWATER

- It is a google page with itself submerged in Underwater .
- Try “more fish please” with the button ‘search’ and also with ‘ I’m felling lucky ‘.

T-REX RUN

- Trex game is a running dinosaur game compatible with all mobile phones. To start the game, press “START” or tap on the screen which will also jump the T-Rex Dino. Keep tapping to jump the Dino anytime over the cacti and other hurdles that come along.

GUITAR

- Google Guitar is a decoration of the Google logo, known as the “ GOOGLE DOODLE”, that is an interactive guitar made with the combination of Java script, HTML 5 Canvas, CSS and Flash designed by Kristopher Hom, Joey Hurst and Ryan Germick.

BING MIRROR

- It is similar to that of the elgooG site. Shows the mirror view of the searches, that is from right to left.

IP LOCATION

- Browser Geolocation API is a new feature Introduced in HTML 5. Websites can get your location information from browsers that support Geolocation API to bring you better service. A map shows your location information gathered by your browser.

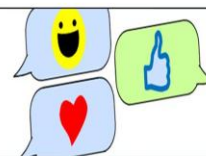
There are still many other hidden google tricks, which are almost in front of our eyes.

Apart from these games there are many doodles which have been created on the mark of any big events or anniversaries. These doodles can be used in an interactive mode too. Many such small subsidiaries of the google and internet explorers have been developed by the basic programming languages such as Python, Java script ,HTML, etc....

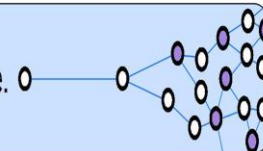
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8 tips to stay safe online

1 Be nice to people online.



2 Take care with what you share.



3 Keep personal information private.



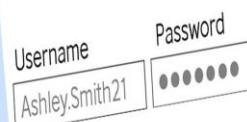
4 Check your privacy settings.



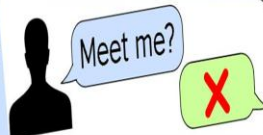
5 Know how to report posts.



6 Keep your passwords safe.



7 Never meet anyone in person you've only met online.

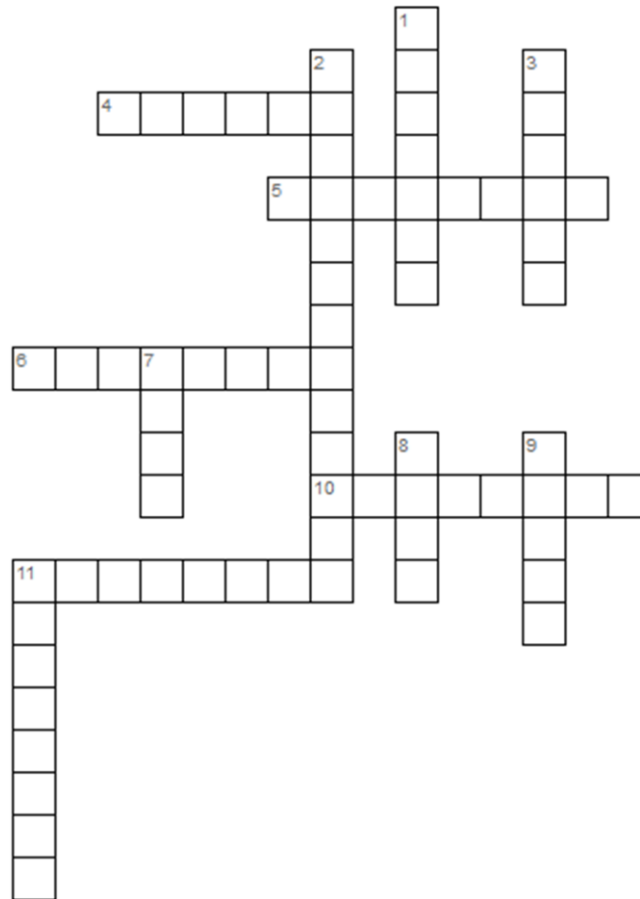


8 If you see anything online that you don't like or you find upsetting, tell someone you trust.



Crossword Puzzle - Internet Safety

Internet Saftey

**Across**

- 4 Whats does the S stand for in SMART
- 5 What do you do if the email is from someone you don't know
- 6 Dont tell anyone online your infomation
- 10 Be careful of thieves
- 11 The act of attempting to acquire sensitive information such as usernames, passwords, and credit card details

Down

- 1 Don't give out personal information such as your phone number or your
- 2 What is the real name for 'online Bullying'
- 3 Be carefullwhen
- 7 Unsolicited bulk messages, especially advertising.
- 8 Once you press then you cant get it back
- 9 Sent by people who want to get into your computer
- 11 Dont tell anyone your...

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Techno Fusion – a MCQ

1. In computer hardware with respect to a network interface card, the term 10/100 refers to_____

- (A) Protocol speed (B) a fiber speed (C) megabits per second
(D) min & max server speed.

2. A hard disk is divided into tracks which are further subdivided into_____

- (A) Clusters (B) sectors (C) vector (D) heads

3. What command in Linux is used to count the total number of lines, words and characters contained in a file?

- (A) countw (B) wcount (C) wc (D) countp

4. Which command is used to remove files?

- (A) dm (B) rm (C) delete (D) erase

5. Which hardware architecture is not supported by Red hat?

- (A) SPARC (B) IBM-Compatible (C) Alpha (D) Macintosh

6. What term in Artificial Intelligence is used for discarding the judgmental or commonsense part of problem solving?

- (A) Heuristic (B) Critical (C) value based (D) Analytical

7. What was originally called the “imitation game” by its creator?

- (A) Turing test (B) USP (C) logistic theorist (D) cybernetics

8. A report generator in database is used to_____

- (A) Update files (B) print files or paper (C) data entry
(D) all

9. Which is not logical database structure?

- (A) tree (B) rational (C) network (D) chain

10. Which of the following is a database administrator function?

- (A) Database design (B) backing up database (C) performing monitory (D) cell

11. In java a thread can be created by

- (A) Extending a thread class (B) Implementing runnable interface (C) both (D) none

12. In java _____ can only test for equality whereas _____ can evaluate any type of Boolean expression

- (A) Switch, if (B) if, switch (C) if, break (D) continue, if

13. Which is subset of SQL command used to manipulate Oracle database structure including tables?

- (A) DDL (B) DML (C) both (D) none

14. Which of the following html4 attributes is removed in html5?

- (A) Text (B) rules (C) links (D) all

15. _____ defines the accelerator key to be used for keyboard access to an element

- (A) Data (B) access key (C) rp (D) command

16. The _____ defines the syntax of markup constructs and include additional definitions such as character entity references.

- (A) attributes (B) SGML (C) elements (D) DTD

17. In CSS what does SVG stands for?

- (A) Scaled Vector Graphics (B) Scalable Vector Graphics
(C) Scaled Vector Graphics (D) none

18. The _____ property allow us to include the padding & border in an element's total width & height.

- (A) margin (B) box-sizing (C) padding (D) none

19. Which is a stateless protocol?

- (A) html (B) TCP (C) UDP (D) HTTP

20. What does value 2 of web socket attribute socket – ready state indicate?

- (A) Closed connection (B) handshake (C) unestablished connection (D) none

21. How many Web socket events are available?

- (A) 2 (B) 3 (C) 4 (D) 5

22. How many types of filters are present in php?

- (a) 3 (b) 2 (c) 4 (d) none

23. An array element are stored in _____ memory location.

- (A) Sequential (B) random (C) both (D) none

24. The date () function returns _____ representation of the current date and /or time

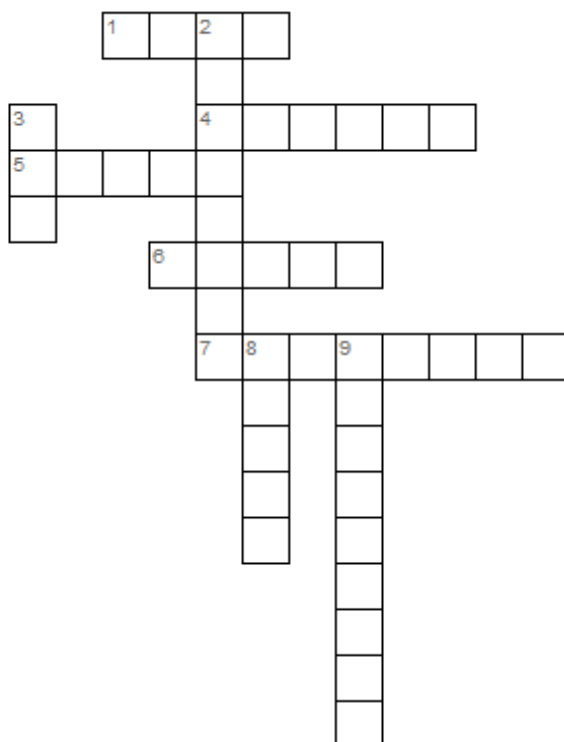
- (A) integer (B) string (C) Boolean (D) float

25. Who is the Father of C language?

- (A) Bjarne stroustrup (B) James A Gosling (C) Dennis Ritchie (D) none

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Crossword Puzzle -Technology



Across

- 1 Allows gadgets to be connected wirelessly
- 4 Allows the user to take pictures of their surrounding
- 5 Allows two or more persons to talk or text each other
- 6 consists of a moving cursor that select icons on a computer
- 7 Used to type words into the computer

Down

- 2 A very popular social media
- 3 used to find location by way of the internet
- 8 To send a message over the internet
- 9 Allows music to be transferred from one phone to the other

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Mindsweeper

Find out the technical words hidden inside the below matrix:

a	d	r	w	q	k	v	j	f	d	h	k	s	s	e	b	x	s	j	b
d	h	a	m	o	e	b	a	x	e	a	g	j	r	h	x	b	w	l	u
g	i	h	w	y	m	c	v	p	b	o	q	f	n	p	e	z	f	d	g
c	r	g	x	b	k	e	a	q	u	h	j	r	u	o	k	l	s	q	r
n	l	v	f	g	v	b	j	y	g	l	i	p	t	j	d	v	l	w	u
l	o	o	p	l	i	c	k	f	g	r	p	e	m	u	l	a	t	o	r
n	j	t	u	i	k	d	e	t	e	l	x	m	r	w	p	y	l	h	g
y	i	p	w	d	d	h	p	i	r	a	c	y	j	l	c	n	b	p	k
q	w	y	p	a	c	f	s	h	s	l	k	n	b	z	i	y	r	l	u
k	l	f	b	v	x	o	z	m	j	l	g	f	y	d	r	i	j	u	s
p	f	g	d	j	l	t	m	n	f	d	a	g	t	b	x	s	v	g	b
l	u	i	g	t	u	o	o	p	s	j	d	s	e	g	k	y	l	i	x
k	j	l	r	b	c	v	z	w	u	t	j	k	c	r	d	n	a	n	s
e	g	j	u	m	t	p	u	l	e	t	r	v	o	n	g	t	h	k	s
r	f	w	t	y	w	q	p	j	k	l	i	l	d	b	f	a	n	m	g
n	s	t	u	k	c	a	b	h	v	k	s	n	e	t	i	x	p	u	r
e	w	f	s	h	j	l	r	b	d	k	t	m	g	s	r	y	i	e	l
l	h	r	c	a	d	d	a	e	o	h	i	n	i	r	i	g	s	a	h
t	u	p	o	w	d	e	h	t	v	h	s	k	m	j	z	i	l	v	d
u	r	q	l	r	d	g	v	k	y	l	z	c	o	m	p	i	l	e	r

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The Rise of Kotlin

Kotlin who, you say?

- Kotlin has become one of the most popular JVM languages in the past few months, partly because it experienced a lot of attention in the Android community after, Google announced Kotlin as an official language for android development in 2017.
- Kotlin is an open source **programming language** that combines object-oriented programming and functional features into a unique platform. This is a strongly statically typed language that runs on JVM.
- According to RedMonk's biannual review of the most popular programming languages, Kotlin has jumped from number 65 to number 27 in less than a year.
- The language was designed to be loved by Java developers. It's 100% interoperable with Java code, so much so that classes written in Kotlin can be mixed up with classes in Java and the solution will work seamlessly. Seriously, any Java library can be used within Kotlin. And since a lot of gigantic enterprise systems and Android applications use Java, a new and lightweight Kotlin is a gift to Java developers.
- But most importantly, Kotlin is now the first-level language for Android app development. Google's appreciation for the language and the commitment to support Kotlin means a lot for its future growth and popularity

3-D Metal Printing



3-D Metal Printing

Breakthrough: Now printers can make metal objects quickly and cheaply.

Why It Matters: The ability to make large and complex metal objects on demand could transform manufacturing.

Key Players: Markforged, Desktop Metal, GE

Availability: Now

In the short term, manufacturers wouldn't need to maintain large inventories—they could simply print an object, such as a replacement part for an aging car, whenever someone needs it.

In the longer term, large factories that mass-produce a limited range of parts might be replaced by smaller ones that make a wider variety, adapting to customers' changing needs.

The technology can create lighter, stronger parts, and complex shapes that aren't possible with conventional metal fabrication methods. It can also provide more precise control of the microstructure of metals.

R. Padmapriya
Assistant Professor / CSE

Top 10 Highest Demanding Computer Science Jobs In 2019

1. Mobile Applications Developer

Many businesses are seeking to out to reach their customers beyond websites. The easiest way of reaching customers is through mobile devices. To achieve this, they have to build mobile apps. This means that there is a high demand for mobile application developers. This directly translates to high pay.

Mobile application developers must be experienced in developing apps for two major platforms (iOS and Android). You should also be experienced in coding using different frameworks and different mobile development languages. The average salary of a mobile application developer is \$107,000.

2. Software Engineer

Once you graduate with a degree in computer science, you can end up becoming a software engineer. This job entails designing and creating core engineering specifications for software and applications. You should be knowledgeable about the information systems and specific programming languages. You should also have excellent communication skills. The average salary of a software engineer is \$ 124, 500.

3. Database Admin

\$87, 025 is the average salary of a Database Administrator. They must identify the needs of users. They are the ones who maintain the company's database. He or she also designs and implements the databases, schedule and run regular backups and recover lost data, if any. They implement and monitor database security and ensure data integrity. Microsoft and Epic Systems are hiring this kind of jobs.

4. Web Developers and Designers

With the rise of the world wide web, the need for website developers is increased. A **web developer** is responsible for using various components like the engine, transmission, wheels, etc. to construct a fully-functional car that is error-free in its technical aspects. A **web designer** is responsible for the aesthetic design of the car (the comfort of the seats, the layout of the dashboard, etc.) as well as the convenience in driving and riding in the car.

5. Information Systems Security Manager

Systems security is a very critical topic that is giving many people some problems. Even the organizations that are assumed to be having the most advanced security infrastructure always find themselves under threat. To alleviate the risks, they usually hire information systems security managers.

Systems security manager ensures that there is no breach of security in the systems of the organization. They also have to stay updated on the latest security trends. In order to be a systems security analyst, you need to have major certification such as CompTIA Security+ or a Certified Information Systems Security Professional (CISSP). The job attracts lucrative perks. Their average salary is \$140,000.

6. Data warehouse manager

Data warehouse house management is essential for every business or institution. The importance attached to data warehouse makes data warehouse manager important consultant resource persons in any organization. Data warehouse managers are entitled to the responsibility to analyze and evaluate the data needs of users and organizations.

7. Data Scientist

Data scientists are among the best-paid computer experts. They mainly deal with data that is they have the knowledge about collecting data, organizing it and analyzing the data. Data collected and analyzed is then

forwarded to managers who use the information in making critical decisions. Data scientists should have skills in programming, statistics, and analytical skills and lastly, they should have mathematical skills.

8. Big Data Engineer

In recent years, Big data has been one hot topic in the business world. It entails converting raw data into meaningful information that can be used for decision making. Businesses are in a dire need for big data experts.

It is understood that with the right data, a business can easily pass its competitor and move to the next levels. Apart from analyzing and interpreting data, big data engineers are also responsible for developing software that can automate the task of data analysis. For this reason, a business will be ready to part with huge sums of money to retain its data engineers. A computer science degree and some hands-on skills on the database are necessary for one to be a big data engineer. The average salary of a big data engineer is \$155,000.

9. Data Security Analyst

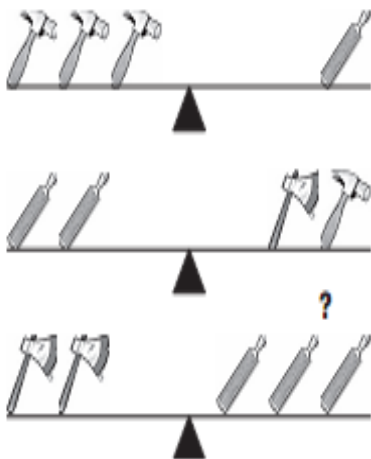
The job of a data security analyst is to create various powerful mechanisms for protecting data against various forms of risks. This can be against both internal and external security threats. Data security analysts should have an in-depth understanding of computer security, network security, network protocols, encryption technologies, firewall administration among several other security measures. They should always be aware and updated of the laws concerning the security of data. A recognized certification such as CISSP is usually required by the employers. The average salary of data security analysts is \$125,000.

10. Network Architect

Computer network architects handle each aspect of computer networking. It involves doing everything from designing, implementing computer networking and communication systems. They also deal with computer network layouts that specifically deal with wired and wireless connection transmissions. These experts are expected to come up with networking solutions that specifically meet the requirements of a given organization

Mrs. S. Hemamalini
Associate Professor / CSE

Which tool will make the last scale balance?

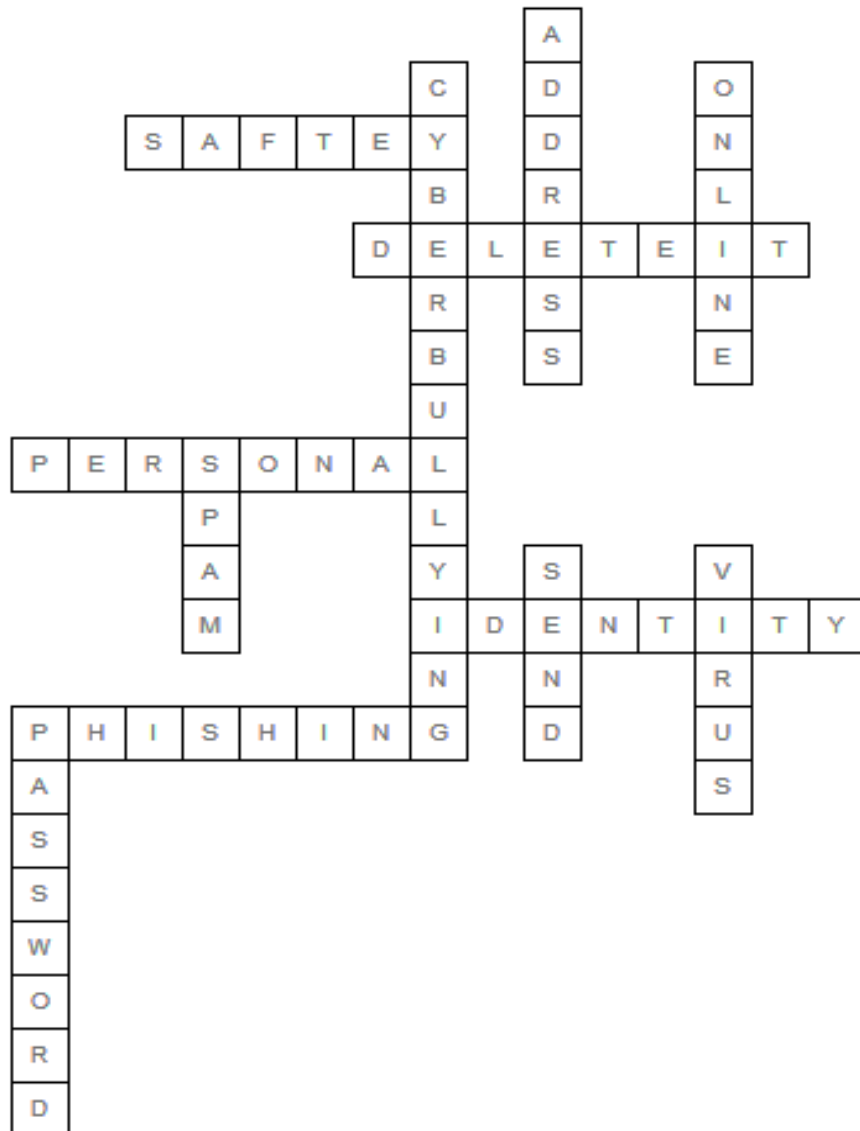


Answer :Hammer

Explanation:The Hammer = 1, the File = 3 and the Axe = 5

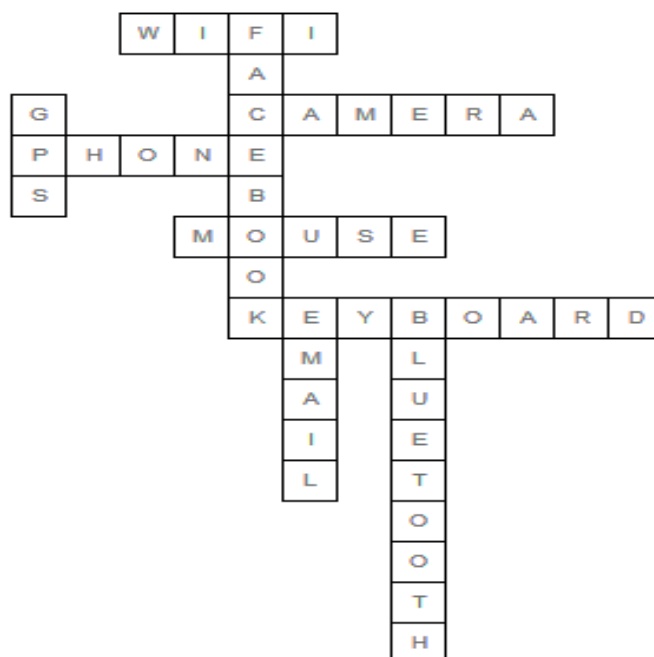
ANSWERS

Crossword Puzzle: Internet Technology



MINDSWEEPER:

- | | |
|-------|-------|
| 1) C | 14) D |
| 2) B | 15) B |
| 3) C | 16) D |
| 4) B | 17) B |
| 5) D | 18) B |
| 6) A | 19) D |
| 7) A | 20) B |
| 8) B | 21) C |
| 9) D | 22) B |
| 10) D | 23) A |
| 11) C | 24) B |
| 12) A | 25) C |
| 13) A | |

Crossword Puzzle: Technology

TECHNICAL PUZZLE

1. **Amoeba** - Amoeba is a distributed operating system.
2. **Bug** - In computer programming, a bug, also called software bug, is an error
3. **Byte-Code** - Byte-code is a binary file containing an executable program
4. **CADD: Computer-Aided Design and Drafting** - Computer-Aided Design and Drafting (CADD)
5. **Cloud computing** - Shared computing services provided on demand by computers accessed over the Internet.
6. **Compiler** - Compiler is a type of computer program that translates source code into object code.
7. **Debugger** - Debugger is a computer program that is used to debug other programs.
8. **Emulator** - Emulator is a software or hardware device with emulation program to imitate another program or device.
9. **Firmware** - Firmware is software that is embedded in a hardware device.
10. **GUI: Graphical User Interface** - A graphical user interface (GUI)
11. **Java** - Java, in computer programming, is an object-oriented programming language.
12. **Kernel** - Kernel, in computer technologies, is the central part in most computer operating systems for the management of the system's resources and the communication between hardware and software components.
13. **Kylix** - Kylix is a Linux version of the Borland Corporation's Delphi
14. **Loop-** continuous execution of set o statements under certain condition.
15. **OOPS: Object-Oriented Programming** - Object-oriented programming(OOP) is a computer programming paradigm
16. **Plug-in or Plug-In** - A plug-in (or plug-in) is a type of computer programs that interacts with a main application
17. **Piracy** - Software piracy refers to the illegal copying, distribution, or use of software.
18. **Shell** - A shell, in computer technologies, refers to the interface between the user and the computer's operating system.
19. **Syntax** - Syntax, in computer science, refers to the spelling and grammar of a programming language.
20. **Trigger** - Trigger, generally speaking, is the cause of an event.

ALUMNI TALK



I. Kalyyanasundar

Software Engineer
BPM Links

"I am Kalyyanasundar Ilangovan who graduated from Panimalar Institute of Technology in 2018. My college life was the best journey of my life which holds a lot of memories start from happiness to

disappointments that can't be ignored just like, from each of them, I have learnt lessons. In this happy journey, I turned myself from normal middle bench student to developer at BPM Links, Having Software Clients with Leading US Banks, Just because of technical knowledge which I had gained from my lecturers, especially Our Mohana Prakash Sir who taught me web design which is perfectly designing my life now. Our HOD and department staffs give us support and hope to develop websites like e-Learning, techkranthi – 2017, Bits & Bytes – 2017 with my friends Gowtham Kumar and Sanjay.



Hariprakash B
Programmer Analyst
Cognizant Technology Solutions

It was the year 2017; we had begun our journey in this prestigious institution. We had to overcome significant challenges, but the institution believed that we could make the most difference, and it was a great success.

This is the place where I had spent my most of the memories. Boys-Girls English to Hasty- Tasty Briyani. I belonged to the CSE Stream, in turns saying I am working as a Software Professional in a IT Company. More than Academics, my college taught me how to survive in this society. Sardonic Truth is, outside world is bit tough than our college.

Now coming to the part of Computer science and engineering department, I feel that am complete combo of Web Technologies and Some concepts of computations and cyber security.

In the beginning I learnt a lot in operating systems and data structures, which had good base for my interview purpose.

And also mathematics staffs travelled with me till i complete my graduation because only department that has 7 Mathematics paper.

As the part of Laboratory sessions I actively participated in all hackathon programs because of my lab sessions .I should thank all lab faculties for moulding me in coding.

At last, pillar of the department my HOD Dr.V.Subedha supported me a lot during the peak times of college life.

And especially I thank my professors Mrs.M. Therasa, Mrs.S.Hemamalini, Mr.T.A. Mohanaprakash, Mr.K. Sathyamoorthy, spotted all my mistakes and made me a complete software engineer.

Determination today =
Success tomorrow

See your goal
Understand the obstacles
Create a positive mental picture
Clear your mind of self doubt
Embrace the challenge
Stay on track
Show the world you can do it

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