



Computer Department
2022-23 SEM - 1





PRINCIPAL DESK Dr. HU Tiwari

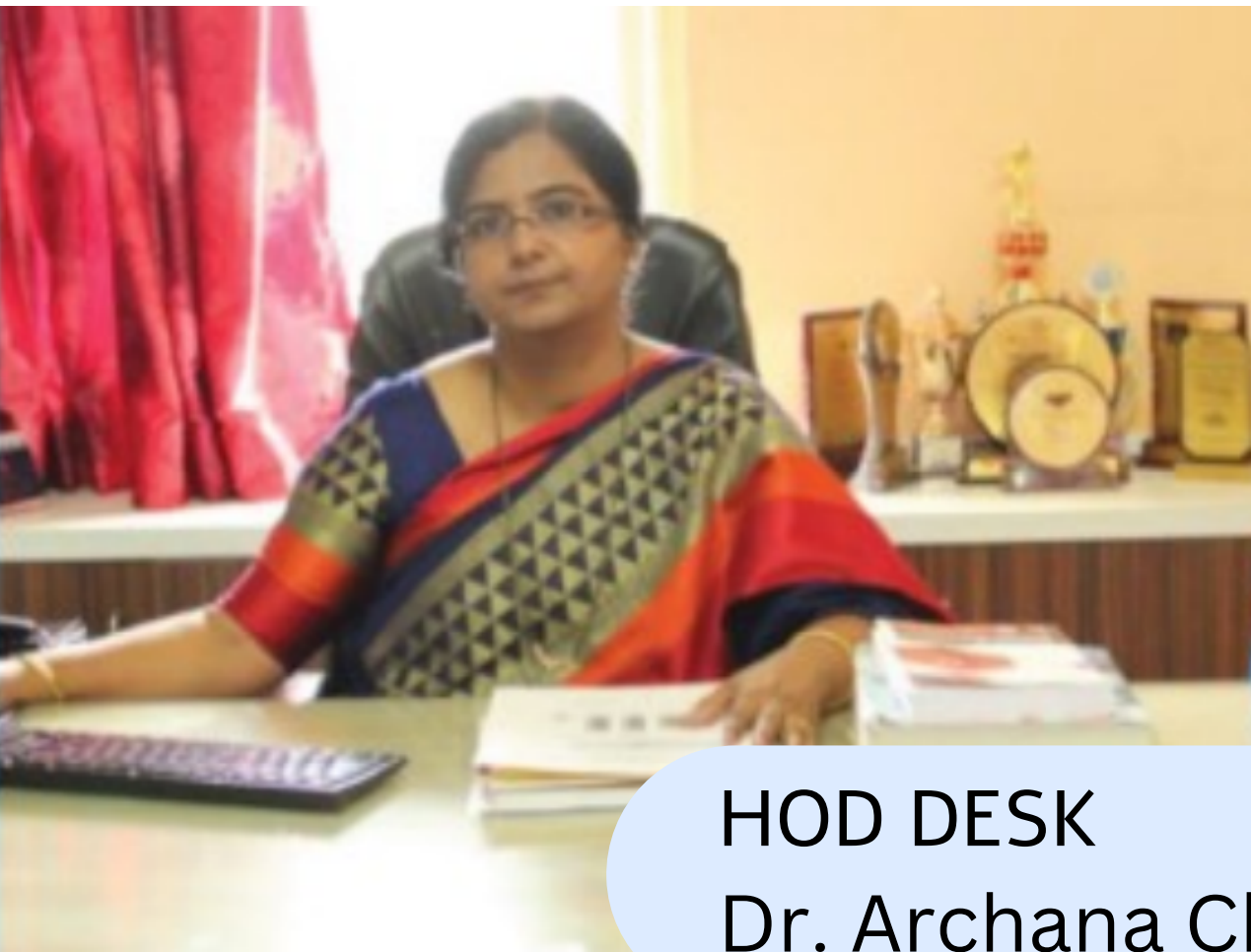
India today stands as world's third largest economic power, its economy growing at about 8%. The emerging Indian entrepreneurs are becoming

global. The figure of number of Indians in the list of richest people in the world escalates every year.

The versatile knowledge of Indians makes India as a preferred destination for outsourcing knowledge, hence it is emerging as a destination of world class Research and Development Centers and innovation hubs.

You must, therefore, be highly excited to make your own contributions to the growth and development of India of your dream.

I wish you a very happy and academically highly rewarding student life in PCCOER. I also hope that you will be your good deeds enhance the pride and prestige of this prestigious institution.



HOD DESK

Dr. Archana Chaugule

The Department is committed towards imparting quality education and developing future technocrats in the stream of computers. It is focused towards its mission of facilitating students progress by providing strong foundation in fundamental concepts as well as inculcating core values of professionalism and ethics.

Our Aim is to: To improve the quality of students results. To inculcate the right Domain skills required in computer engineering. To create passionate students heading towards self actualisation. To promote creative problem solving related to societal needs.

The Department is pillared by the qualified and experienced faculty; and backed by the student centred teaching learning processes.

The department presents them with plenty of opportunities for applying their acquired knowledge and critical thinking skills thus striving to bridge the theory practice divide.

COMPUTER DEPARTMENT



OUR VISION

To strive for excellence in the field of Computer Engineering and Research through Creative Problem Solving related to societal needs.

OUR MISSION

- Establish strong fundamentals, domain knowledge and skills among the students with analytical thinking, conceptual knowledge, social awareness and expertise in the latest tools & technologies to serve industrial demands.
- Establish leadership skills, team spirit and high ethical values among the students to serve industrial demands and societal needs.
- Guide students towards Research and Development, and a willingness to learn by connecting themselves to the global society

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Cyber Junkies

- SHANTANU TAK

In 1988, Robert Tappan Morris, a talented computer graduate from Cornell University, unleashed a program on the internet. Soon every computer in almost every prestigious college was "under attack". This attack wasn't destroying any data but every computer was slowed to death. Computer geniuses worked day and night to remove this threat. Computers had to get wiped and disconnected for weeks. In the end, this out-of-control Morris worm caused damage worth FBI involvement.

This was just an early case of how dangerous cyber-attacks are going to be in the future. Morris worm, Melissa Virus, and Botnet operation are a few examples of what turned into an inspiration for a generation of computer geeks and making Cyber Security a basic need.

So, what is Cyber security, and why it is so important? Our systems are connected 24/7 to the internet, to the wide world of the internet. With a rapidly increasing number of users, this world evolves itself every second. We store a substantial amount of data on the internet. Government, social media, and financial organizations, all collect and accumulate data on computers and servers. Most of this data can be sensitive like personal information.



With all these things exposed to this growing world, what if some unauthorized user accesses this data? There is a chance of getting this precious and sensitive information changed or destroyed. When someone gains unauthorized passage to our system or databases using special software skills or taking advantage of security vulnerabilities what we call hacking, can be vicious. And this is where cyber security comes in.

Cyber security is something we have designed to protect data that you intended to keep shielded from getting exposed to the not-so-innocent world of the internet. Disrupting our computer systems, data getting breached online, brutal threats on servers, yes it can all be prevented with cyber security. A successful defense can be provided against Interrupting business processes and destroying sensitive information. Effective Cyber security involves technologies and practices for protecting the digital infrastructure. To secure the computer and other critical systems some small and simple but important and necessary strategies can be used which can make a big difference.

Implementing the hardware and software to secure a computer network so intruders cannot seek weaknesses in the system. You can use strapping data storage to protect the data. Implementation of multi-factor authentication to validate identity. Being selective about usernames and passwords.

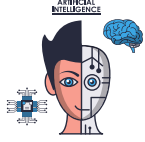




The Best and easiest of all these ways are running reputable and up-to-date antivirus software. It can automatically detect and eliminate various types of malicious viruses. Anti-virus can provide maximum protection against the latest threats. Another notable protection, Firewalls, can avert some types of attacks by not allowing unnecessarily outbound communications and internet traffic in the system.

On a personal and professional level, one can take care of these resentful threats. Talking about the profession, Cyber Security is one of the highest-paying jobs in the world right now. It is a growing industry that requires skilled tech professionals. The high demand will only continue to grow. These jobs can be simple to enter and offer more security but can be more stressful than others. There are many interesting jobs like security consultant, security engineer, and ethical hacker.

Although the most dangerous virus can be not taking cybersecurity seriously and it is just as threatening as the many active threats out there. The growing risks mean that when storing and sharing data and sensitive information online, it is crucial to keep your cyber security knowledge up to date and prioritize precautions than falling victim to vigilante cyberpunks.



ARTIFICIAL Intelligence

Artificial Intelligence-Face Recognition

Ever wondered how it is done while unlocking your phone or watching it in movies? It is a basic application of AI and quite simple too, all you need is some basic knowledge of Python.

OpenCV is an open-source python library that provides tools for Computer Vision. Having said that, have you wondered what is the data type of an image or a video? Let's find out... OpenCV helps in image manipulation like converting your image from a BGR scale (Blue-Green-Red scale) to Grayscale images or helps to increase certain pixel values in the picture, blur the images or sharpen them, resize the images, background removal, and object detection in addition to face detection and recognition. All this can be done not just with images but on videos and live feeds from webcams as well.

But how is it done?





A computer reads the image in the form of pixels. Each pixel has 3 channels for the colors blue, green, and red which range from 0 to 255. Different combination of these values produces different colors. Manipulating these pixel values, we can make changes in the picture and also, perform recognition based on these values.



Since an image is stored in the form of pixels, the data type of an image is a NumPy array of these pixel values. Using Numpy, we can modify our images in OpenCV. Face detection can be done by detecting the eyes, and nose of a person, and then Recognition can be done by measuring the distance between the eyes, the shape of the face, and other such factors.

Iris recognition for Aadhaar card verification, and face locks in our phones are some basic examples of Face and Object Detection and Recognition using OpenCV

-Khushi Rohra

The Collapse of Crypto Exchange FTX

We all know crypto currencies rise and fall over the years, but one of the world's largest cryptocurrency exchanges-"FTX", collapsed causing its creator Sam Bankman Fried to go from \$16 Billion dollars to \$0 dollars and his crypto empire to file for bankruptcy. The crypto currency "FTX" was basically a mess or a tangled bunch of wires which could be defined as 100 different

companies all united under the common ownership of Sam Bankman-Fried and his co-founders, Gary Wang and Nishad Singh. The working of FTX can be described as four main "silos": a venture capital arm, which invested in other businesses; a hedge fund, which traded crypto for profit; and two exchanges, one supposedly ringfenced and regulated for the US audience, and one international exchange where the rules were much freer.

The revenue streams of FTX were as diverse as the business, but the core of the group was the exchange of crypto. In crypto trading, most people usually buy cryptocurrency by transferring money ("fiat") to an exchange like FTX, which operates like a bureau de change (basically trading crypto for another crypto), trading currency pairs at a floating exchange rate.



FTX's regulated exchange system offered that service, and the company took a cut of every transaction, but the money was in the much more aggressive trading on the international exchange, where traders would try to profit from swings in the prices of crypto assets, borrowing money to increase their potential earnings (or losses). This basically means the more complex the trade, the bigger the cut you get.



Now the main cause of the collapse of "FTX" is because of a token called FTT. This was effectively a share in FTX, that the company issued itself and promised to buy back using a portion of its own profits. However, some important documents were leaked to news site CoinDesk suggested that Alameda, the group's hedge fund, was using FTT to make risky loans. Which effectively trading using their company's script. The revelation prompted a major holder of FTT, a rival exchange Binance, to declare it was selling its holdings, which prompted a run on the exchange as other customers scrambled to withdraw their funds. It collapsed because of deeper issues to do with the link between FTX and Alameda. The exchange did not have the ability to accept wire transfers, so customers would send money to Alameda, and FTX would then credit their accounts. However, the actual money was never passed on, so three years later, Alameda had kept hold of, traded with, and frequently lost more than \$8bn of FTX customer funds. And when the run on the exchange started, FTX could not find the money it thought it had, because it never even had it nor did they confirm if they had it.

So, in the long term, FTX failed because the company was a mess as it was a complete failure of corporate controls and had such a complete absence of trustworthy financial information which led to their downfall

- Ashutosh Chaudhari

Hoax or Fact?

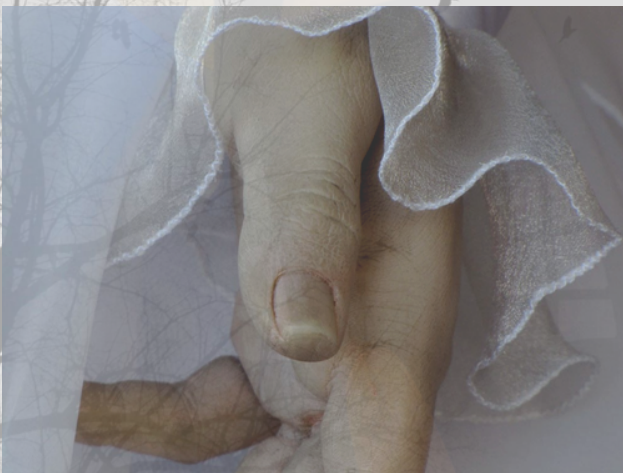
La Pascualita-Legend or Real?



A wedding dress shop in Chihuahua, Mexico is home to a 90-yr old Mannequin that is so lifelike that it is rumored to be an embalmed corpse. What is astonishing, is that the mannequin bears an uncanny resemblance to the daughter of the original shop owner, Pascuala Esparaza.

In the light of local rumors, it is said that the daughter died tragically on her wedding day due to the poison of a Black Widow Spider and the mannequin appeared not long after that.

Some people say that the mannequin changes its position when no one is looking, or that the mannequin's eyes follow them around the store. People also claim to have seen her cry, smile and leave the window on lonely nights. What are your thoughts, is it real or just folklore?



- Aman Kocharekar



Around The World

GRAND PRISMATIC SPRING

- Khushi Rohra

Ever wondered what a rainbow-colored spring looks like?

Grand Prismatic Spring at Yellowstone is a marvel with its kaleidoscope waters that resemble a rainbow.

But what might cause these colorations?

The water in the hot springs flows without any interruptions creating non-stop cycles of hot water rising, cooling, and then falling again. Due to this, layers of water with different temperatures are formed in the spring. The layers are formed like a ring with the innermost ring being at the highest temperature and the temperature reduces as we move outward. As the layers are at different temperatures, they house different bacteria that give the spring its marvelous look.

It is Yellowstone's largest hot spring that is 200-330 feet in diameter and it is more than 121 feet deep. The hot water travels from a crack in the Earth that is 121 feet deep to reach its surface. While it is extremely beautiful, it is extremely dangerous as well. So if you plan to go there, follow all the safety precautions.



WANDERING TALES

- Gaurav Lapate



A nice lake picnic, boating, beautiful sunsets- if these are your ideas for a weekend, we have a place for you, Kasarsai Dam.

A calming and soothing place to experience marvelous sunsets.

Location- Kasarsai dam is situated in the proximity of Pune city and is very close to Hinjewadi IT park. It takes just 15 mins from Bhumkar chowk.

Chill out with your friends at restaurants with a magical lakeside view, or carry a picnic basket for a beautiful lakeside picnic.



Pune Delights

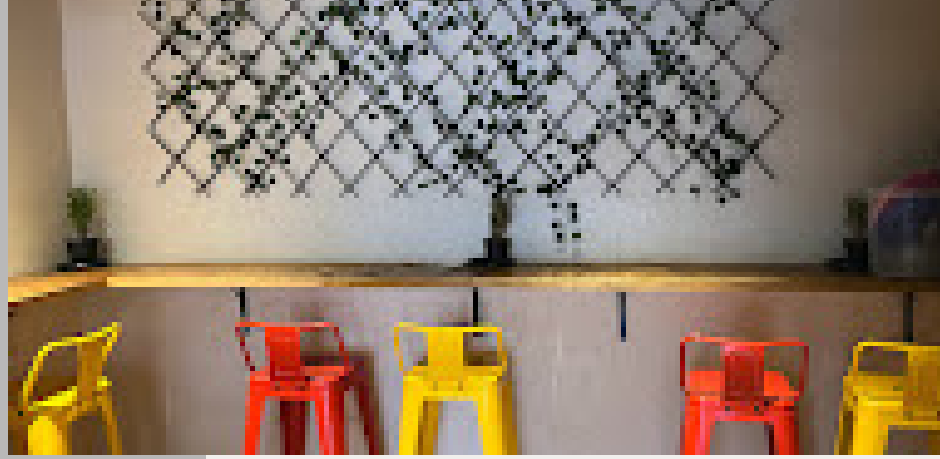


Want to grab a coffee?

We might have a place for you.....

Milky Bar Cafe!

Among all the flavours, my personal favourite is its Hazelnut Cold Coffee!



It is flavorsome, perfectly creamy and thick. Also, it is worth the money.

You can try them yourselves, feel free to contact us to let us know your favourites.

Savor the flavour, coffee lovers.



MILKY BAR

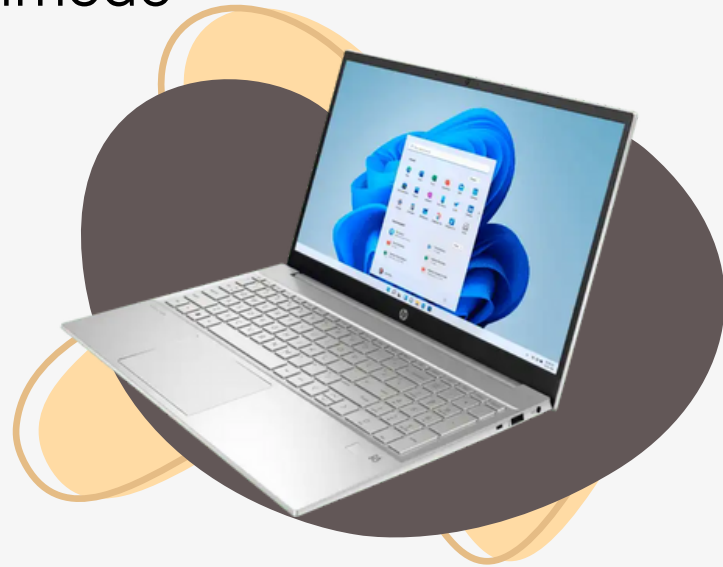
- Ashwin Lavate

TECHNICAL REVIEW

- Ishan Honmode



HP Pavilion Gaming Laptop 15



HP Pavilion Laptop 15

SPECS

- 11th Generation Intel® Core™ i5 processor
- Windows 11 Home 64
- NVIDIA® GeForce RTX™ 3050
- 512 GB SSD
- 8 GB DDR4 RAM (1 x 8 GB)
- 2.23 kg

- 12th Generation Intel® Core™ i5 processor
- Windows 11 Home
- Intel® Iris® Xe Graphics
- 8 GB DDR4 RAM (1 x 8 GB)
- 512 GB SSD
- 1.74 kg

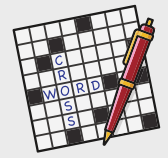
Both of these laptops are excellent for college students with great specs at an affordable price.

With HP's Pavilion gaming laptop 15, the overall processing power would be great, thanks to the onboard RTX 3050 GPU, which would give a huge boost to the overall gaming and general usage experience. The weight however, is on the **heavier side**. The battery life good, but expect **no more than 2-2.5 hours**.

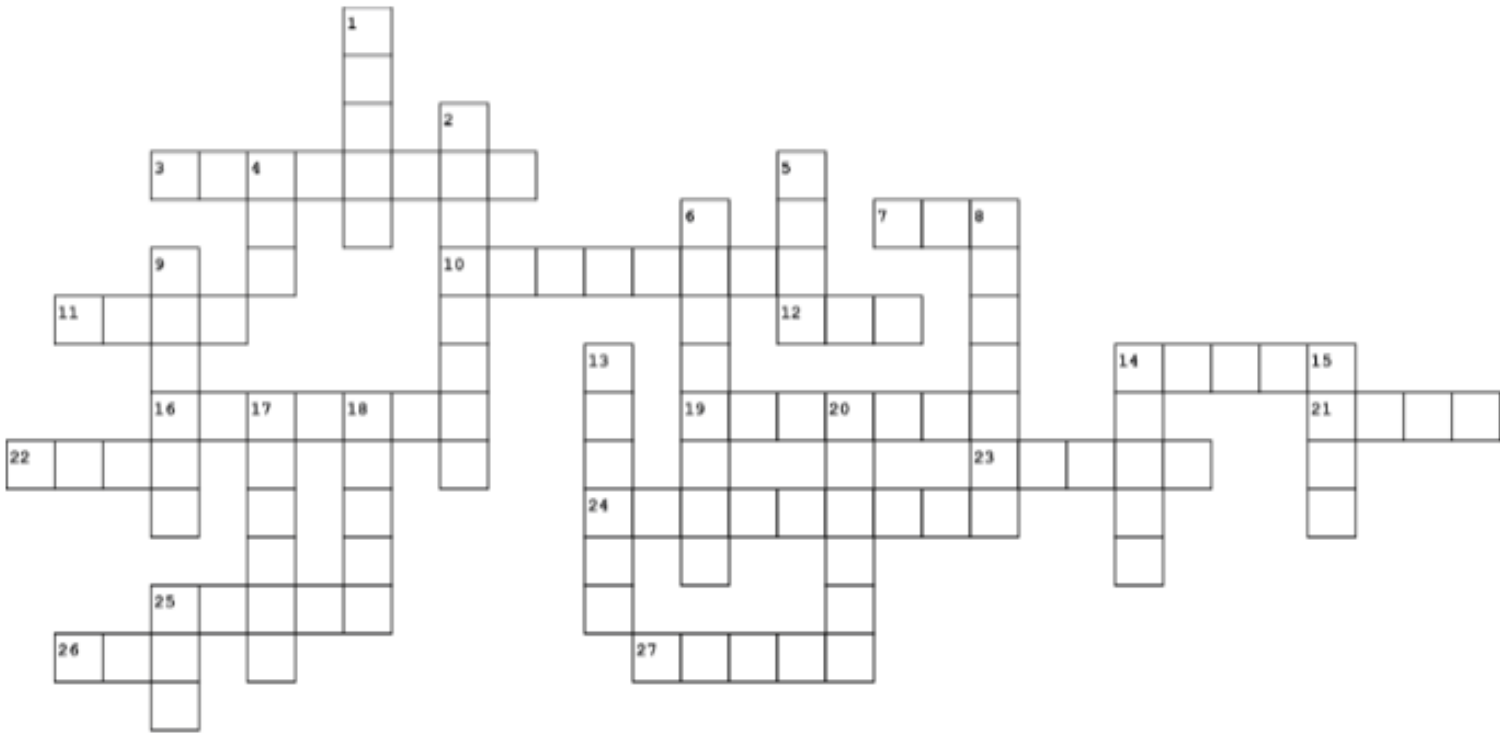
HP's pavilion 15 offers good performance and a great battery life with weight being around 1.5kg so its much more easier to carry around. Though expect **less** in terms of the **gaming performance**.



PUZZLES



1. Crossword



ACROSS

3. A general-purpose machine that processes data according to a set of instructions that are stored internally either temporarily or permanently.

7. WWW stands for the World Wide

10. To quit all applications and turn off the computer.

11. In a graphical user interface (GUI), a small, pictorial, on screen representation of an object, such as a document, program, folder or disk drive.

12. Abbreviation for Uniform Resource Locator, which is an address on the World Wide Web.

14. This kind of Internet connection is much faster than dial up Internet access. You can also watch tv on it.

DOWN

1. A file or program that can be uploaded to your computer from the Internet or disk. This file or program is uploaded without your knowledge and is intended to do damage to your computer.

2. One of the major browsers, that is used on the Internet.

4. This stands for Megahertz.

5. Displays a list of commands, some with images next to them.

6. Instructions that tell the computer what to do.

8. A program that you use to view pages on the Internet.

9. Allows you to organize files and other folders.

16. An on-screen representation of a desktop such as used in the Macintosh and Windows operating systems.

19. The most widely used operating system for personal computers from Microsoft.

21. To move an object on screen in which its complete movement is visible from starting location to destination.

22. Tell the computer to create a file on disk that has the information you've put into the document (usually typing).

23. When you send a letter to someone

24. Allows you to move around through your document.

25. Your computer or application no longer works correctly and so you 'lose' all the work you've done since the last time you saved.

26. Abbreviation for Internet Service Provider

27. To close a window that has been opened for viewing and / or editing.

13. The name of the arrow (or other shape) that tracks across the screen as you move the mouse (or other pointing device) around.

14. To select an object by pressing the mouse button when the cursor is pointing to the required menu option, icon or hypertext link.

15. To make a change to existing data.

17. Give the file a name and/or store the file in a certain place.

18. Place where you put files and folders that you want to delete or get rid of.

20. To remove an item of data from a file or to remove a file from the disk.

25. The main chip on the computer that makes everything go.

2.Circle the WORD



- Algorithm
- Bullets
- E-books
- Firewall
- Graph
- HTML
- Keyboard
- modern
- Pendrive
- Protection
- RAM
- Space
- Turbo
- Website
- Anaconda
- Computer
- Fill
- Font
- Grid
- Innovation
- Keypad
- Monitor
- Program
- Python
- ROM
- Spyder
- Videos
- Bing
- CPU
- Firefox
- Google
- Harddrive
- Input
- Language
- Output
- Programming
- Query
- Screen
- SQL
- Webpage

<codechef>

@error404

Find your inner peace, and heal your soul
nobody can bring you peace but yourself.

#question #problemsolving

Problem:

Given an $n \times n$ grid containing only values 0 and 1, where 0 represents water and 1 represents land, find a water cell such that its distance to the nearest land cell is maximized, and return the distance. If no land or water exists in the grid, return -1. The distance used in this problem is the Manhattan distance: the distance between two cells (x_0, y_0) and (x_1, y_1) is $|x_0 - x_1| + |y_0 - y_1|$.



Eg.1

```
1 0 1
0 0 0
1 0 1
```

Input: grid = [[1,0,1], [0,0,0], [1,0,1]]

Output: 2

Explanation: The cell (1, 1) is as far as possible from all the land with distance 2.

Eg.2

```
1 0 0
0 0 0
0 0 0
```

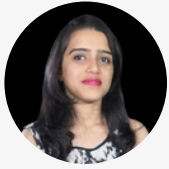
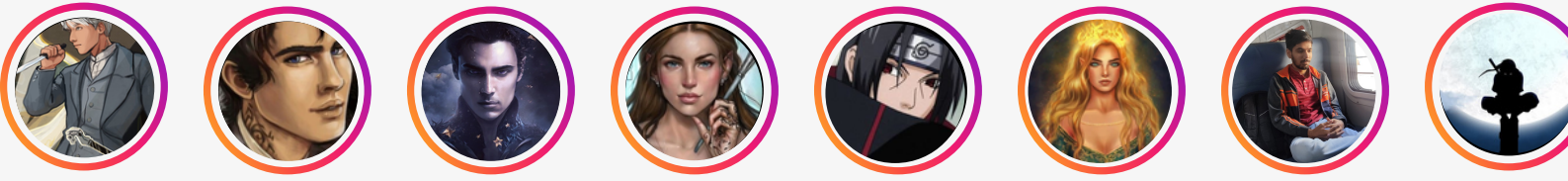
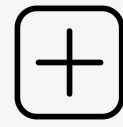
Input: grid = [[1,0,0], [0,0,0], [0,0,0]]

Output: 4

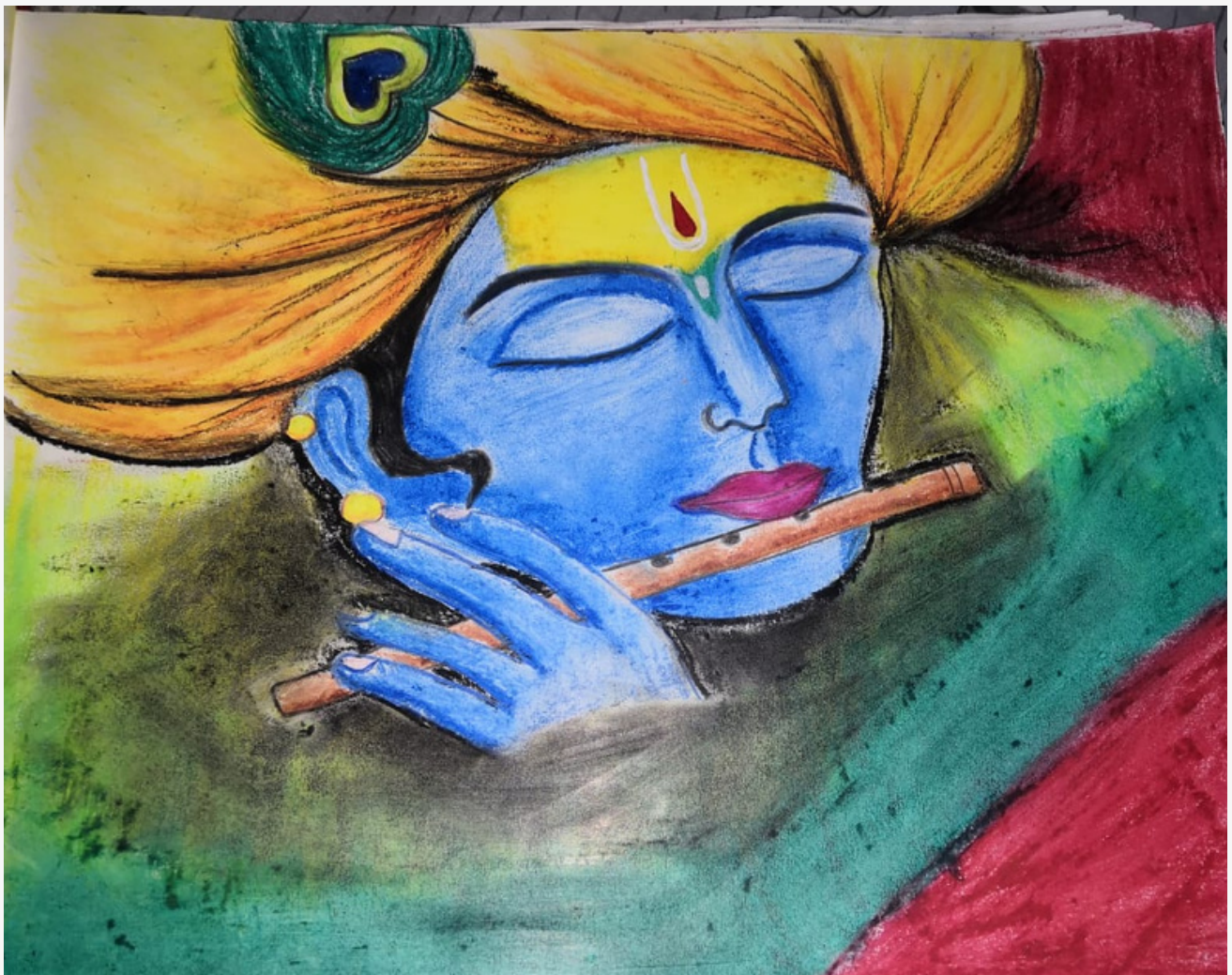
Explanation: The cell (2, 2) is as far as possible from all the land with distance 4.

Constraints:

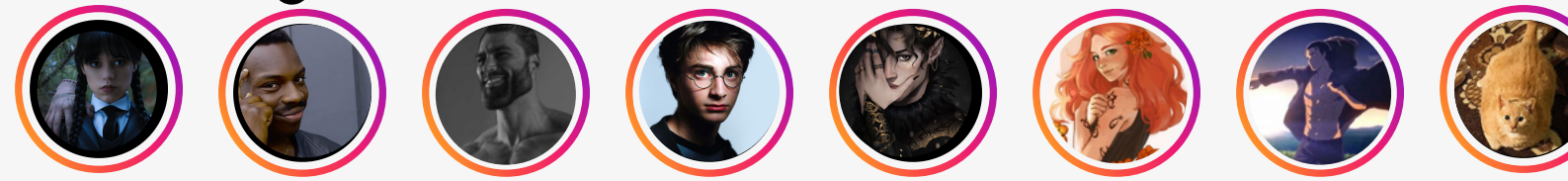
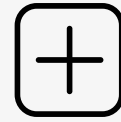
$n == \text{grid.Length}$
 $n == \text{grid}[i].\text{length}$
 $1 \leq n \leq 100$
 $\text{grid}[i][j]$ is 0 or 1



_khushi_2603



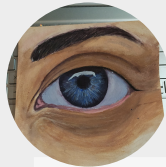
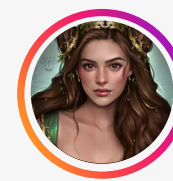
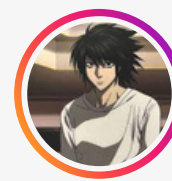
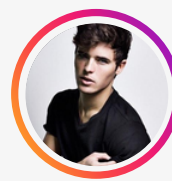
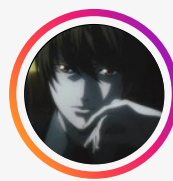
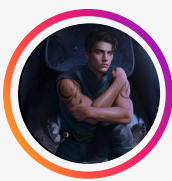
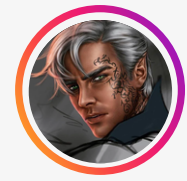
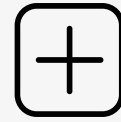
A person is made by their beliefs. As one believes, so they become



artville_8



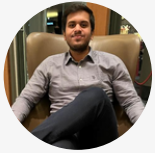
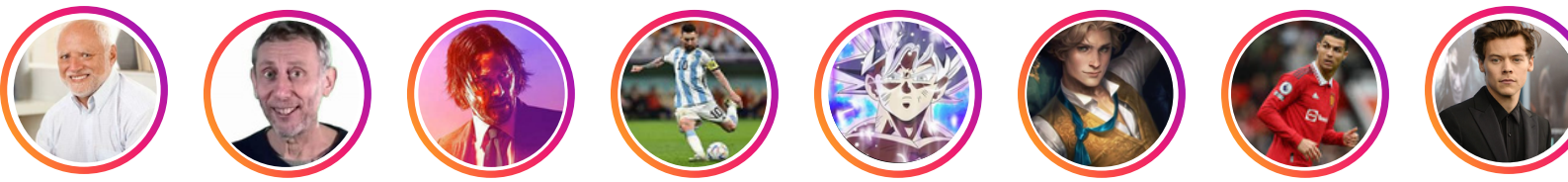
Love doesn't make the world go 'round. Love is what makes the ride worthwhile.



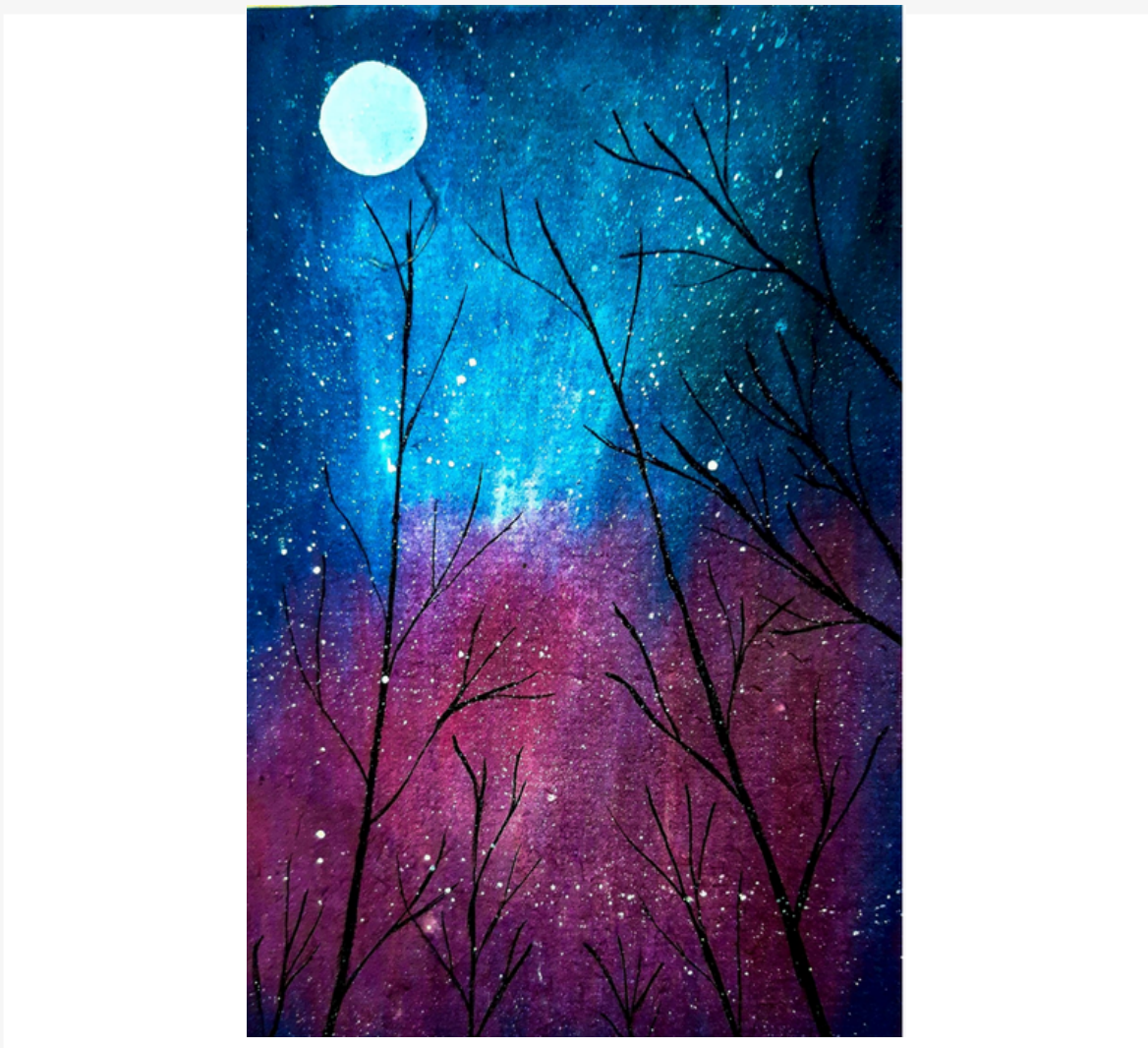
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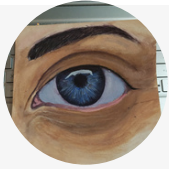
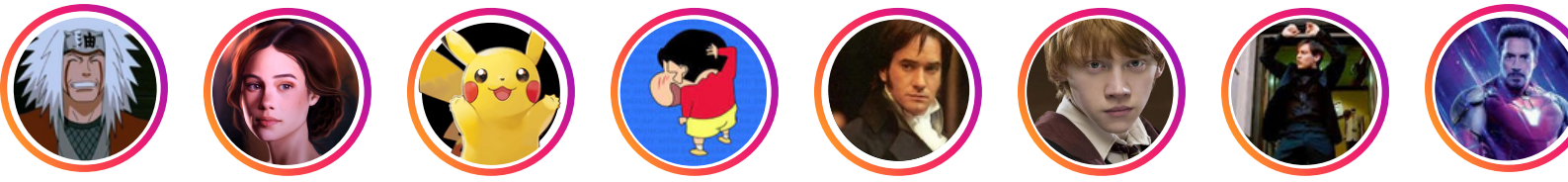
Eyes are portals to another world, full of magic and mystery



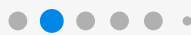
malharr_1912



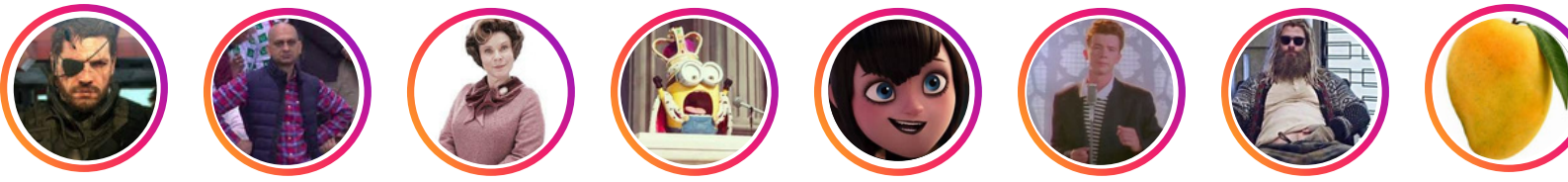
If everything around you seems dark, then look again, you may be the light



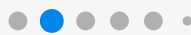
_art_with_dnyanu_official_34 :



True education signifies empowering others and leaving the world a little better than the one we found.



artville_8



There is no greater pillar of stability than a strong, free, and educated woman.

STUDENT ACHIEVEMENTS

Smart India Hackathon

2022 WINNERS

Team-8 bit

Om Chimanpure,
Neha Bhegade ,
Arthav Nimbalkar,
Aditya Bile ,
Abhishek Khachane,
Ritika Bhoite



Smart India Hackathon

2022 WINNERS

Team-8 bit

Agam Bothara,
Dhairyshil Meshram,
Vishwatej Sarwale,
Abhijet Jadhav,
Prakash Sharma,
Siddhi Shitole



STUDENT ACHIEVEMENTS

Website designing

Inter Institute

WINNER

Rucha Potu



SPPU Elocution
competition

2nd POSITION

Chinmay Jagtap



Free Style 50m
Swimming competition

Inter institute

2nd POSITION

Aditi Hambarde



STUDENT ACHIEVEMENTS



Zonal SPPU BasketBall

3rd POSITION

Riya Mohite,
Vibha Rao,
Preeti Hankare,
Diya Kankarej,
Anshika Singh,
Shreya Singh

Airtel IQ Hackathon

Got Selected in top among

9000+ team at National

level

Rajat Deore ,
Abhishek Gawade ,
Abhishek Khachane ,
Aditya Bile





TOP INTERNSHIPS



Priyanka Dorge

BMC

Stipend: 40K



**Yashodhan Rajendra
Patil**

PTC Software

Stipend: 22K



Pratik Chopade

PTC Software

Stipend: 22K





TOP PLACEMENTS



Pranita Bhosale

EQ Technologic

Package: 13.88L

**Akanksha Dilip
Totare**

Barclays India

Package: 12.5L



Rajnandini

Chandrashekhar Jagtap

Barclays India

Package: 12L





TOP PLACEMENTS



**Sreenidhi Sachin
Bendre**

Pubmatic

Package: 11.62L



**Shruti Vijay
Jadhav**

Pubmatic

Package: 11.62L



**Bhagyashree Bhaskar
Narwade**

TIAA

Package: 10.48L





TOP PLACEMENTS



Piyush Sunil

Ingale

Infocusp

Innovations Pvt Ltd

Package: 12L

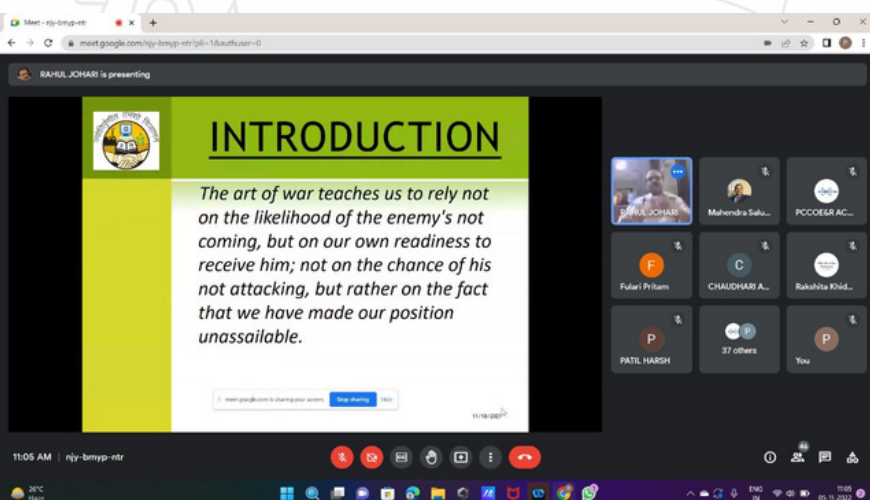
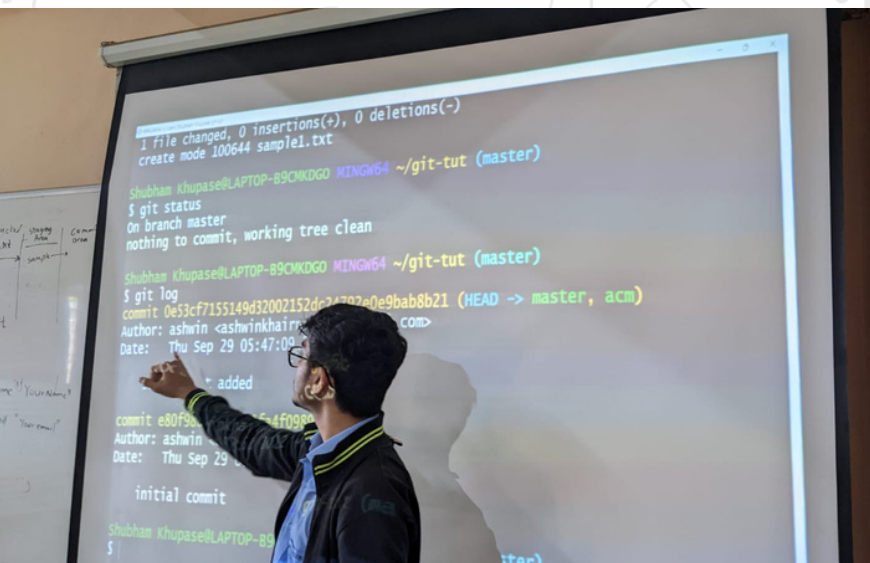


ACMxPCCOER Student Chapter

"ACM believes that students are individuals defined by their individual differences, unique in their talents and learning styles. Therefore, it is imperative to recognize that while not all students excel in more traditional academic environments, those same students can thrive in educational environments better suited to their unique abilities. Whether in public relations, engineering, or technical applications, there is a significant portion of serious and talented students with both high levels of emotional intelligence and academic potential, and these students are highly valued. I think. ACM continues to recognize these areas of education as vital to the job market and is committed to providing opportunities for students to succeed in both their personal lives and careers."



Activities Conducted BY ACMxPCCOER



COMPUTER COSMOS CONSORTIUM

C-Cube is a college club that organises tech as well as non-tech events with the aim to build a community in college and help students with a holistic growth

□ **ANDROID WORKSHOP:** It was a ten day app development workshop which was conducted by an industry expert giving the TE students a good experience and hands-on.



ACHIEVEMENTS OF C-CUBE

□ **HTML-CSS-JS WORKSHOP**: It was a basic one day web development workshop which was conducted by our college students for the 11th-12th students giving our students a good exposure of teaching wherein they gave hands-on to those students as well



□ **TECHNOVATE 2022**: It was a large scale event conducted by our college and co-ordinated by the students of our club. The event comprised of many technical events like code cipher, robo wars and other coding competitions giving the students an opportunity for holistic development



□ **TEACHER'S DAY 2022**: It was a simple event organized by the SE-TE students and it included several performances by the students and the teachers



What is GDSC?

Google Developer Student Clubs are university based community groups for students interested in Google developer technologies. Students from all undergraduate or graduate programs with an interest in growing as a developer are welcome. By joining a GDSC, students grow their knowledge in a peer-to-peer learning environment and build solutions for local businesses and their community.

At Google DSC, we aim to bring together diverse students to contribute towards a like minded goal.



Events Timeline- GDSC?



Dec

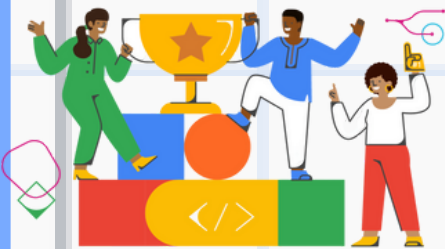


Aug



Jan

Feb



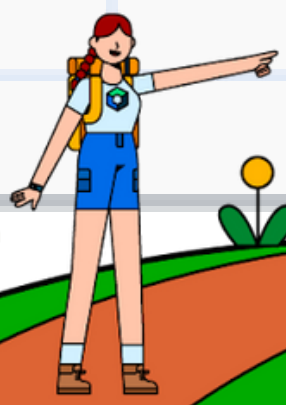
Mar

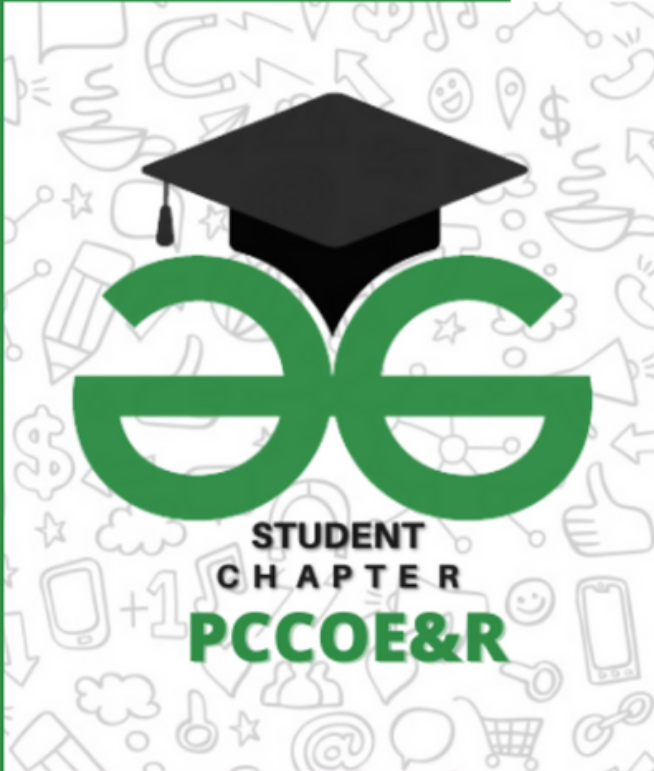
April



May

June





Faculty Coordinator :
Prof.Gowind Suryawanshi

GEEKS FOR GEEKS STUDENT CHAPTER PCCOER

GeeksforGeeks Student Chapters are university-based community chapters creating a coding culture for students interested in Computer Science and other core technical competencies also to make the igniting technical minds to execute their knowledge in productive way.

OUR MISSION

- To build a strong network of igniting young minds to create a change for the future.
- To amplify the impact and to bring together the peers to learn new skills, solve real-world problems, and build communities across the campus.
- To bring a revolutionary change in campus community with 3 LRE Formulation - LEARN-RESEARCH-EXPLORE.



HEY GEEKS !

Geeky Team Of GFGXPCCOER



BY JOINING GFGXPCCOER, STUDENTS WILL HAVE OPPORTUNITY TO :

- Get an internship opportunity at Geeks For Geeks.
- Grow their knowledge in peer-to-peer learning environment.
- Learn to build effective and optimized solutions for local businesses and their community as per the latest technology trends.
- Great learning and networking experience.

EVENTS

Programming with Python (5 days Workshop)

Date: 15 Sept 2022

To enrich students with OOP concepts using python and to explore Python programming & its features.



Industry 4.0 Technologies & Research Trends

Date: 26 Dec - 31 December 2022

One week faculty development program to enrich students with OOP concepts using python and to explore Python programming & its features.

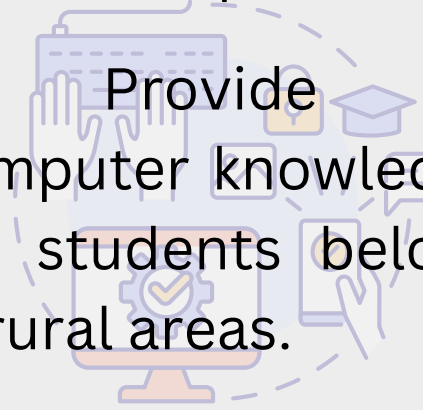


Computer Literacy Camp



Date: 15 Sept 2022

To Provide Basic Computer knowledge to the students belonging to rural areas.



Hands on session: HTML & CSS Training XI Commerce Students

Date: 15 Sept 2022

To help students move onto more advanced skills such in web development.



Teacher's Day 2K22

Date: 05 Sept 2022

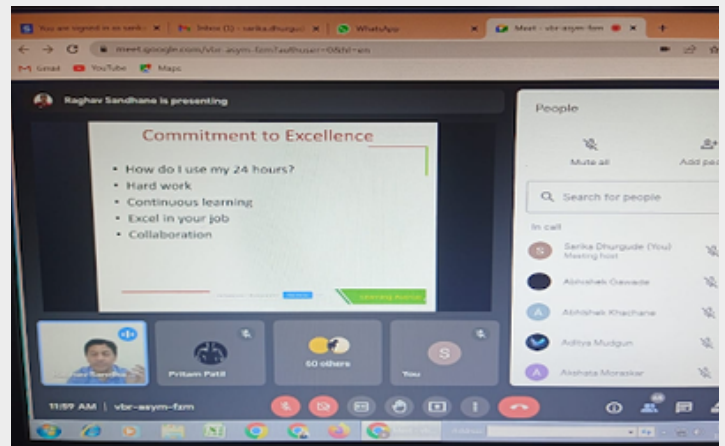


On the occasion of Teacher's Day we want to thank our all teachers as it gives us very good opportunity to thanks our teachers who are giving shapes to our lives

Expert Session : Professional Ethics & Etiquettes

Date: 16 Oct 2022

To help the students to understand the significance of professional ethics and etiquettes. Students get knowledge about real time



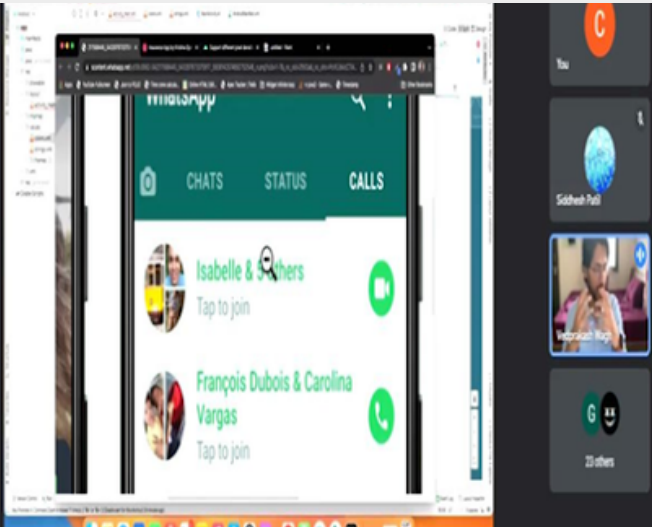
professional ethics and etiquette scenarios and how it can contribute to professional life.



Android Development Workshop Under AICTE-SPICES

20th July to 30th July 2022

To Create robust mobile applications and learn to integrate them with other services. Build enterprise level mobile applications with Kotlin on Android. To understand both the basic and advanced concepts of Kotlin.



Coding Event - Code Quest

Date: 15th Sept 2022

To promote coding culture in students and motivate students to code. To build team spirit among students.

To make students understand the importance of time and accuracy during coding.



Industrial Visit : Cognatech Ltd Narhe, Pune

Date: 18th Nov 2022



Department of Computer Engineering arranged one-day Industrial Visit to Cognatech Ltd Narhe, Pune on 18th November 2022 for SE Students to know the working culture and recent trends in industry.

Workshop On Roadmap To DSA

Date: 26 Sept 2022

To introduce Students to the Data Structures and Algorithms. To put students through basic overview of DSA and to inculcate the knowledge of the way (Roadmap) to



study the vast subject like DSA in perspective of placements. To help students to kick-start their journey of DSA with full-fledged confident mind.



Computer Department Teacher's



Magazine Team

Our Team

Faculty Co-ordinator

Prof. Minal Bodke

Pushkar Sarda

Ashwin Lavate

Khushi Rohra

Ishan Honmode

Aman Kocharekar

Om Khare

Ayush Kamthe

Gaurav Latpate

Dnyaneshwari Jadhav

Samruddhi Kashmire

Shantanu Tak

Ashutosh Chaudhary

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Departmental Magazine 2023