

JANUARY 18, 2025

ASCII

BIMONTHLY NEWSLETTER

BYTES OF TECHNOLOGY & TRENDS

ABOUT ASCII

ASCII Newsletter is a student-driven, bimonthly publication celebrating innovation, technology, and creativity. While created by students, it's designed for anyone with a keen interest in technology—offering thoughtfully selected articles, hands-on tutorials, and the latest tech updates to engage and empower all curious minds.



+91 77150 91244



nmfdegree.edu.in

Editorial Board

Chief Editor

Mr. Vishant Pasi
T.Y.B.Sc. CS

Technical Content Lead

Mr. Vineet Khamrai
Assistant Professor

Design & Layout Lead

Ms. Jeenal Jain
Assistant Professor

Mr. Aakash Verma
Assistant Professor

Contributors

Jui Bhosle
F.Y.B.Sc. CS

Maanya Poojary
F.Y.B.Sc. CS

Krishnakant Mishra
S.Y.B.Sc. IT

Ankur Thorat
T.Y.B.Sc. CS

Dilip Prajapati
T.Y.B.Sc. CS

Khushi Gupta
T.Y.B.Sc. IT

Proof Reader

Dr. Bhakti Chaudhari
Coordinator of B.Sc. CS

Ms. Vaishali Mishra
Coordinator of B.Sc. IT



ASCII

BIMONTHLY NEWSLETTER

BYTES OF TECHNOLOGY & TRENDS

ABOUT ASCII

ASCII Newsletter is a student-driven, bimonthly publication celebrating innovation, technology, and creativity. While created by students, it's designed for anyone with a keen interest in technology—offering thoughtfully selected articles, hands-on tutorials, and the latest tech updates to engage and empower all curious minds.



WHATS INSIDE?

- 01 VIRTUAL CLASSROOM
- 02 THE SILENT CARBON FOOTPRINT OF YOUR INBOX
- 03 IT & GREEN IT
- 04 ARTICLES ON TECHNOLOGICAL TRENDS
- 05 INNOVATIVE CREATIONS BY STUDENTS
- 06 PUZZLE TIME



How to Build an Engaging Virtual Classroom from Scratch



Creating a virtual classroom that feels alive and engaging starts with a clear purpose and easy access for students. When the purpose is defined and the resources are organized, students can easily navigate and focus on learning. The key to engagement lies in sharing valuable, well-structured resources such as notes, presentations, and videos.

By organizing these materials in a way that students can quickly find what they need, you remove unnecessary barriers and help them stay on track. When students can access everything they need with ease, they're more focused, motivated, and ready to dive into the learning process.

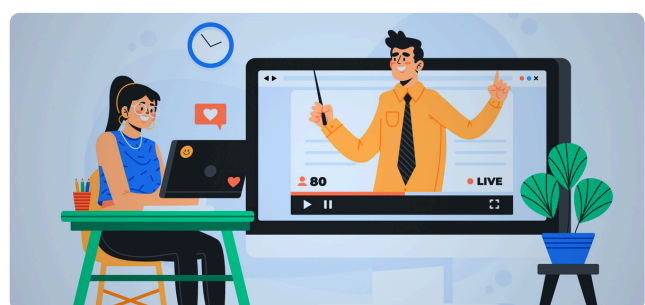
– **Vishant Pasi**
(T.Y.B.Sc. CS)

● Elevate Your Classroom Experience

Traditional teaching methods have shaped education for generations, but there's always room to enhance the experience. By combining the strengths of structured classroom learning with modern tools and strategies, you can create an environment that inspires curiosity and deeper understanding.

To create an engaging virtual classroom, start by defining the objectives and understanding your learners' needs to tailor the content and features accordingly. Choose a reliable platform like Google Classroom, Microsoft Teams, or Moodle that supports video conferencing, resource sharing, and communication tools.

Design a clear and easy-to-navigate structure, organizing resources such as notes, assignments, and schedules in a way that students can quickly access. Incorporate interactive features like quizzes, polls, discussion forums, and multimedia content to make the learning experience more engaging and participatory.





Did You Know?

- Over 50 million metric tons of e-waste are produced annually, with only 17.4% recycled properly.
- E-waste recycling can prevent up to 70% of hazardous waste from landfills.
- A 1% shift to digital documents in the U.S. could save 5 million trees annually.

– Atul Mishra
(T.Y.B.Sc. IT)

The Silent Carbon Footprint of Your Inbox

Emails are indispensable for modern communication but have a significant environmental impact. Each email sent, received, or stored consumes energy, primarily from fossil-fueled data centers. This energy use contributes to carbon emissions and climate change, making even digital communication a source of environmental concern.

The Impact of Unwanted Emails

Unnecessary emails, such as spam and newsletters, are a major contributor. They fill up storage and increase server loads, demanding more energy. In 2019, over 300 billion emails were sent daily, with many unread or unnecessary. Long-term storage further adds to the growing carbon footprint.

Quantifying Email Emissions

A single email emits around 4 grams of CO₂, which may seem trivial. However, an office worker's daily emails can emit nearly 480 grams of CO₂, equivalent to driving 3 miles. Multiplied globally, the environmental impact of emails is staggering.

Steps to Reduce Email Footprints

Mitigating email-related emissions is possible with simple actions:

- Declutter inboxes and delete unnecessary emails.
- Unsubscribe from irrelevant newsletters.
- Use email providers powered by renewable energy.

Small individual changes can collectively ease the burden on data centers and reduce emissions.



IT and Green IT : A Comprehensive Analysis



● Importance of Information Technology in the Modern Society

Information Technology, as the very foundation upon which modern infrastructure rests, would have made innumerable applications and touchpoints upon several domains of life:

- **Business Operations** : Automates redundant works, aids global supply chain, and performs an E-Commerce function.
- **Communication** : Provides instantaneous global connectivity through channels, such as email, social networking, and video conferencing.
- **Healthcare** : Manages patient records, enables telemedicine, and powers diagnostics.
- **Education** : Digital resources and e-learning platforms provide access to education even from remote regions of the world.

On the contrary, more reliance on IT means greater ecological impact. Data centers, servers, and devices need huge sums of electricity that is largely generated from fossil fuels. Frequent upgradation of devices results in increased electronic garbage or e-waste.

The rapid growth of Information Technology (IT) has revolutionized communication, work, and productivity but comes with environmental costs like increased energy use, carbon emissions, and e-waste. Green IT emerged to reduce IT's environmental impact while preserving its benefits through sustainable practices.

– **Neel Ambekar**
(T.Y.B.Sc. IT)

● Green IT: Definitions and Objectives

Green IT is the implementation of sustainable practices during the lifecycle of an IT system, from design to manufacturing to use and disposal, with core objectives of

1. **Minimizing the consumption of energy used by IT systems.**
2. **Reduction in greenhouse gases by IT operations.**
3. **Fair disposal of e-waste to avoid pollution in the environment.**
4. **Conservation of resources through products manufacture.**

The Rise of Modern Programming: Flutter

Flutter is an open-source UI software development toolkit created by Google, designed to enable developers to build natively compiled applications for mobile, web, and desktop from a single codebase.

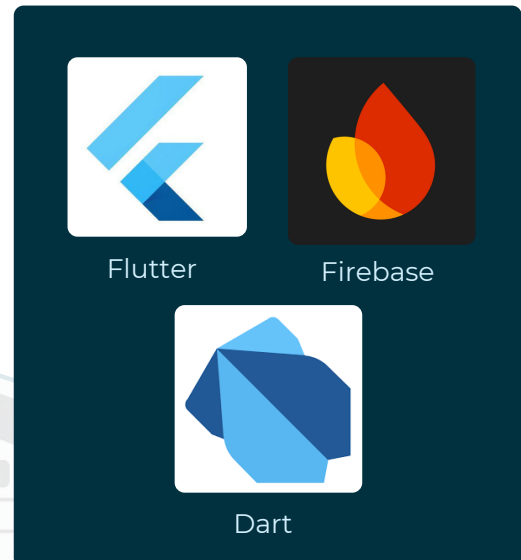
It is powered by the Dart programming language and offers a rich library of customizable widgets that allow for the creation of visually stunning, responsive, and high-performance applications.

Flutter's key features include cross-platform development, enabling apps to run seamlessly on iOS, Android, web, and desktop; hot reload, which allows developers to see real-time changes in their app's UI without restarting; and near-native performance, thanks to its compiled code and efficient rendering engine.

With its flexibility, simplicity, and consistency, Flutter has become a go-to framework for developers creating modern, scalable, and interactive applications.

● Features of Flutter Framework

- **Cross-Platform Development:** Build apps for Android, iOS, web, and more with one codebase.
- **Hot Reload:** Instantly see changes during development.
- **Customizable UI:** Extensive widget library for beautiful designs.
- **Fast Performance:** Compiled to native code for smooth execution.
- **Cost-Effective:** Saves time and resources by reusing code.
- **Wide Community Support:** Strong documentation and helpful community.
- **Open Source:** Free to use with regular updates from Google.
- **Firebase Integration:** Seamlessly integrate Firebase for Real-Time Databases, User Authentication, Cloud Storage, and Backend Support.



The image shows a person's hands typing on a keyboard in front of a computer monitor. The monitor displays code and the Flutter logo. The background is filled with various tech-related icons like gears, a lightbulb, and the logos for Flutter, Dart, and Firebase.

Short Quizzz Check your Tech Knowledge!

Which programming language is primarily used for iOS app development?
a) Java b) Swift c) Python d) Kotlin

What does the term "Cross-Platform Development" mean?
a) Applications that only run on Windows.
b) Code that can run on multiple OS with minimal changes.
c) Apps designed specifically for mobile Devices.
d) None of the above.

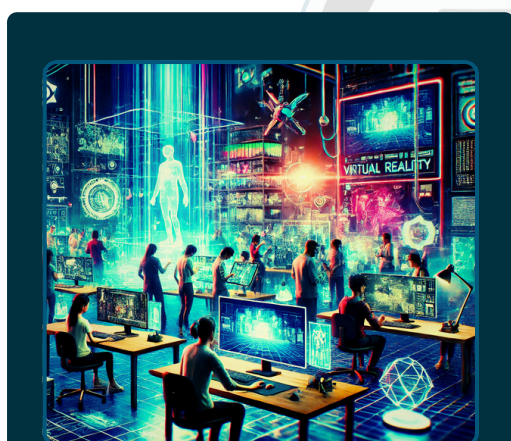
– Vishant Pasi
(T.Y.B.Sc. CS)

The Future of Game Development : Research and Development



Game development is rapidly evolving, driven by advancements in technology and changing player expectations. Research and development (R&D) play a critical role in this evolution, focusing on innovative gameplay mechanics, immersive storytelling, and cutting-edge graphics.

Current trends highlight the integration of artificial intelligence (AI) to create more responsive and adaptive game environments. AI can enhance non-playable characters (NPCs) and personalize player experiences. Additionally, virtual reality (VR) and augmented reality (AR) are reshaping how players interact with games, offering immersive experiences that were once unimaginable.



Looking ahead, R&D will likely focus on enhancing cross-platform play and cloud gaming, allowing seamless access to games across devices. Sustainability in game development is also gaining traction, with developers exploring eco-friendly practices in production.

Game development is gaining popularity, fueled by innovations in AI, VR, and AR, which enhance player engagement. The rise of cross-platform play and cloud gaming is expected to drive future growth, making gaming more accessible and immersive, appealing to a broader audience.

Did You Know?

- VR gaming is evolving rapidly, with games like *Half-Life: Alyx* demonstrating immersive experiences that were once considered science fiction.
- Games like *Minecraft* and *Undertale* prove that indie developers can achieve massive success with limited budgets, emphasizing creativity over resources.
- The first recognized video game, *Tennis for Two* (1958), was developed by William Higinbotham and displayed on an oscilloscope.

– **Rahul Pawar**
(T.Y.B.Sc. CS)

Virtual Realities and Esports: Gaming's New Frontiers

The gaming industry has evolved from a niche hobby into a global entertainment powerhouse, captivating audiences of all ages. Fueled by cutting-edge technologies like augmented reality (AR), virtual reality (VR), and artificial intelligence (AI), gaming has transcended traditional boundaries, offering immersive experiences that rival blockbuster movies.

The gaming industry has seen rapid growth, fueled by technological advancements, mobile gaming, and global online connectivity. Video games have become a mainstream form of entertainment, with rising revenues from consoles, PC, and mobile platforms. The rise of esports and virtual reality further expands the industry's influence worldwide.

Accolades

Aavishkar is a state-level research competition of University of Mumbai, open to participants from all levels and fields of study. Our students received immense recognition for their participation and presentations at the Aavishkar competition, showcasing their excellence and creativity.

● Topics Represented at Aavishkar

Group 1 [S.Y.B.Sc IT] : BLOOD LIFE CENTRE

1. Guram Gauri Daji - Team Lead / Presentator
2. Patel Rehan Jabbar
3. Salkar Bhushan Mukesh
4. Vishwakarma Harsh Sunil

Group 2 [F.Y.B.Sc CS] : Driver Safety App

1. Parab Tanisha Pradeep - Team Lead / Presentator
2. Dholakia Somil Manoj
3. Chougule Samiksha Sunil
4. Gupta Shruti Kanhaiyalal

Group 3 [T.Y.B.Sc CS] : SWATCHNET

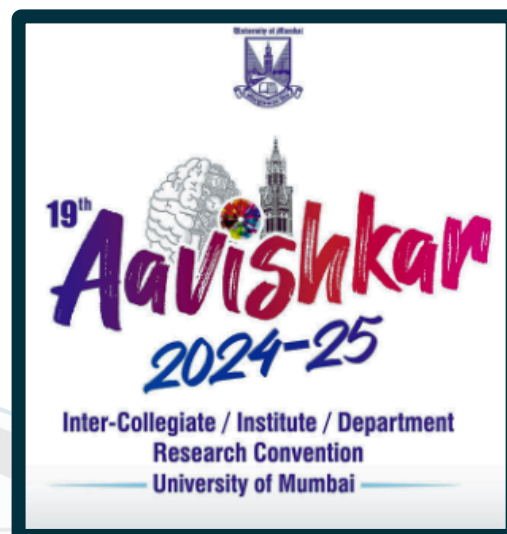
1. Goyal Ankita Ashok - Team Lead / Presentator
2. Parab Vardha Sanjay
3. Palekar Aryan Anant

Group 4 [F.Y.B.Sc CS] : Family Doctor App

1. Sahu Ankit Shankarkumar - Team Lead / Presentator
2. Shukla Sudhansu Sunil
3. Malgundkar Archit Rakesh
4. Tiwari Devesh Ajaykumar

Group 5 [T.Y.B.Sc CS] : FOSA App

1. Shejwal Tanmai Deepak - Team Lead / Presentator
2. Pasi Vishant Chandrashekhar
3. Thorat Ankur Balshiram
4. Prajapati Dilip Jaisaram



Congratulations to all the participants! May you continue to shine brightly and achieve great success in your Future!

Special Thanks to :
Dr. Megha Juvekar &
Mr. Vineet Khamrai



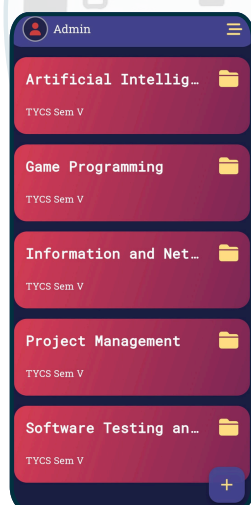
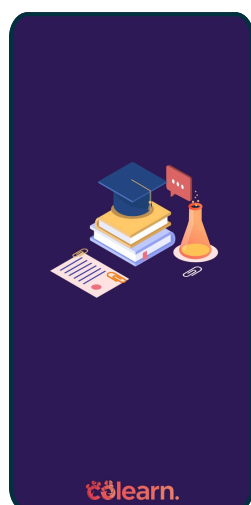
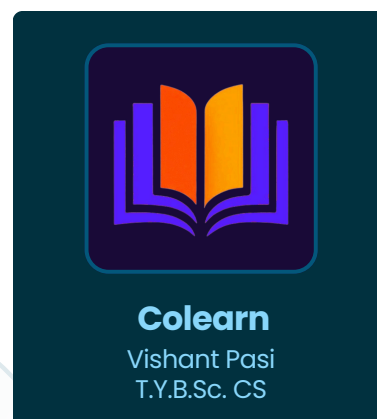
Innovative Creations by Students: Empowering Learning and Community Care

1. CoLearn : A Collaborative Learning Platform

CoLearn is a collaborative learning platform designed to make education more accessible, interactive, and efficient. It empowers teachers to create dynamic virtual classrooms / folders, share resources like notes and assignments, and communicate seamlessly with students.

For students, CoLearn provides easy access to all their learning materials in one place, fostering a more organized and engaging experience. Whether you're a teacher looking to streamline your classroom management or a student seeking a centralized hub for learning, CoLearn offers the tools to enhance education and drive success for both.

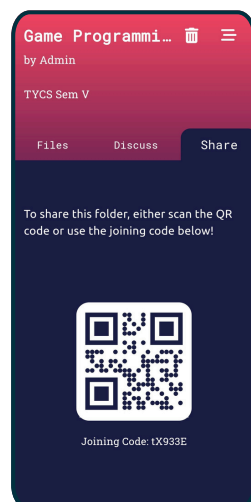
The platform leverages technologies like Flutter for cross-platform development, Firebase for Real-time Data Management, Storage, and Authentication, QR Code integration for simplified classroom joining, and modern design principles to ensure an intuitive and visually appealing user experience.



Why You Need Effective Classroom Management with CoLearn?

CoLearn provides the tools necessary to streamline classroom organization, enhance communication, and ensure that both teachers and students have a seamless learning experience.

With CoLearn, teachers can easily organize resources, assign tasks, all in one place. The platform's messaging system fosters open communication, allowing teachers to stay connected with students and offer real-time support. For students, CoLearn creates an accessible space to find materials, collaborate with peers, and stay on top of assignments.



What Makes CoLearn Stand Out?

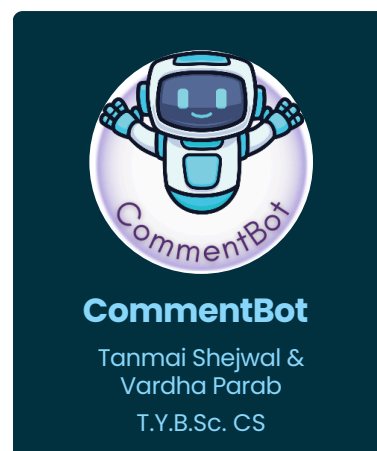
- **Interactive Classrooms:** Create, manage, and share resources like notes and assignments in seconds.
- **Easy Access with QR Codes:** Simplify collaboration by letting students join classrooms with a quick scan.
- **Seamless Communication:** Stay connected with built-in messaging for enhanced teacher-student interaction.
- **Reliable Technology:** Built using Flutter Framework for cross-platform efficiency and Firebase for secure real-time updates.

2. CommentBot – Revolutionizing Social Media Content Moderation

CommentBot is an innovative solution designed to tackle the growing challenge of moderating inappropriate content on social media platforms. With millions of users generating content daily, traditional manual moderation has become unsustainable. CommentBot automates the detection and removal of harmful comments, ensuring real-time moderation to maintain safe and respectful online spaces.

Initially developed as an academic project, the bot is set to evolve using AI and NLP technologies for enhanced detection of contextually harmful content, helping platforms comply with legal and ethical content moderation standards.

By automating this critical task, CommentBot aims to contribute to a safer online environment, reduce risks for platforms, and help them comply with global content regulation standards, making it a key tool in the future of digital content moderation.



×

Login

Admin Name

Password

LOGIN

● Why You Need an Content Moderation?

As social media platforms grow, moderating harmful content manually becomes increasingly challenging. CommentBot automates content moderation by swiftly detecting and removing offensive comments in real time, using large dataset of offensive words.

This ensures safer online spaces by identifying harmful content like hate speech and harassment quickly and accurately. By reducing the burden on human moderators, CommentBot helps platforms maintain a positive user experience, comply with global regulations, and keep online communities safe.

● What Makes CommentBot Stand Out in Content Moderation?

- **Automated Content Moderation:** Detect and remove harmful comments like hate speech and harassment in real-time.
- **Scalable and Efficient:** Handles high volumes of content effortlessly, reducing the workload on human moderators.
- **Seamless Integration:** Can be easily integrated with social media platforms via APIs for real-time moderation and safer online spaces.
- **Future-Ready:** Continuously evolves by frequent datasets updation, improving accuracy and staying ahead of emerging trends in harmful or vulgar language.

Discussion Forum Sign Out

Tanmai

hii Posted on: 2024-09-24 20:19:31

Tanmai

This comment was removed due to violation of communication rules. Posted on: 2024-09-24 20:20:10

Write your comment here...

Post Comment

Clear

Job Opportunities in the IT/CS Sector

The Information Technology and Computer Science sectors are thriving, offering a wide range of career opportunities for skilled professionals. As technology continues to evolve, companies are looking for talented individuals to help drive innovation, develop cutting-edge solutions, and manage complex systems. Whether you're a developer, data scientist, cybersecurity expert, or systems engineer, the demand for tech talent is greater than ever.

● Why Consider a Career in IT/CS?

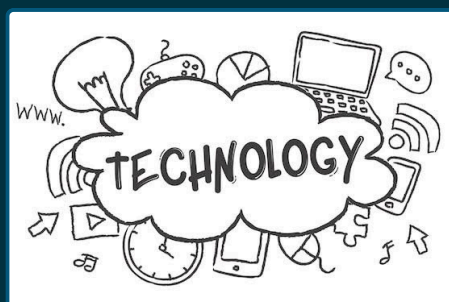
- **Rapid Growth:** The IT and CS fields offer excellent job prospects, with continued expansion in emerging technologies like AI, cloud computing, cybersecurity and more.
- **Diverse Roles:** From software development to project management, there are numerous opportunities in various subfields of technology.
- **Global Reach:** Tech professionals are in demand worldwide, offering opportunities for international careers or remote work.
- **Competitive Salaries:** Tech professionals earn some of the highest salaries in the job market, with additional perks like flexible working arrangements.

● Explore the Future of Work in IT/CS

The IT/CS sector is continuously evolving, and companies are looking for talented individuals to help shape the future. Whether you're interested in software development, cybersecurity, AI, or IT management, the opportunities are endless. The demand for skilled professionals is global, with opportunities for remote work, flexible schedules, and career growth in some of the most innovative companies worldwide.

● In-Demand Skills for IT/CS Careers

The IT/CS sectors demand expertise in programming languages like Python and Java, along with cloud computing platforms such as AWS and Azure. Also skills in AI, machine learning, and cybersecurity are increasingly important. Proficiency in data management and staying updated with industry trends ensure long-term career growth.



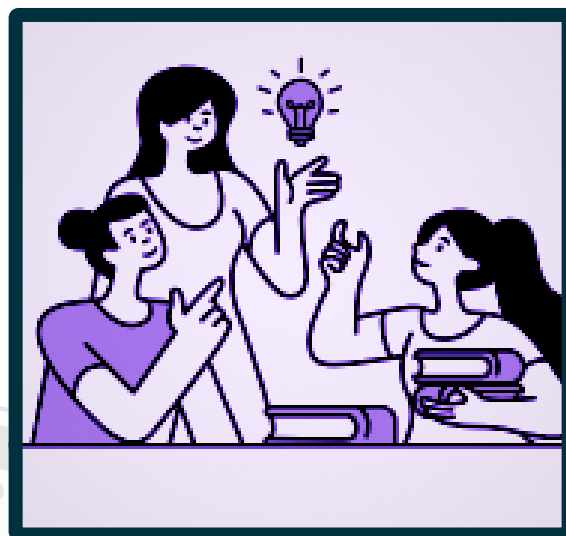
Tech Facts

- The IT and Computer Science industries are projected to grow by 22% over the next decade, creating millions of new job opportunities.
- Artificial Intelligence can beat human players in games like chess and Go, but it has yet to win a game of Rock, Paper, Scissors!
- Software Development remains one of the fastest-growing job fields, with over 1.4 million software development jobs expected to be added by 2030.
- Microsoft Azure is the second-largest cloud platform globally, just behind Amazon Web Services (AWS), and powers millions of businesses around the world.
- Google was originally called "Backrub" when it was first founded in 1996 by Larry Page and Sergey Brin before they changed it to Google in 1997.

PUZZLE TIME

CAN YOU GUESS THE RIDDLE ?

1. I am full of data but cannot store it, what am I ?
2. I can be a circle, a square, or a triangle. I work on the internet, but I don't have to speak. What am I ?
3. What has an address but no house ?
4. I can be copied, but I can't be pasted. What am I ?
5. What runs but never gets tired ?
6. I am a collection of 0s and 1s, and I control your computer's operation. What am I ?
7. I am a sequence of instructions, and I solve problems, but I'm not a human. What am I ?
8. What do you call an object that doesn't contain any methods or properties ?
9. What do you call a variable that doesn't change ?



Hints:

A file, An empty class, An icon, A cache, A program, Binary code, A constant, A program, An email, A variable name in programming

Wordsearch - Mind Maze !

D	P	E	N	C	R	Y	P	T	I	O	N
E	G	T	B	U	G	L	Y	S	O	O	E
V	H	U	H	K	H	J	T	U	R	S	B
I	I	N	B	G	R	D	H	S	R	O	A
C	U	R	X	H	U	H	O	O	H	U	C
E	O	B	D	O	T	G	N	F	N	G	K
S	T	V	E	C	T	O	R	T	R	H	E
D	O	R	C	R	M	Q	A	W	P	T	N
B	U	T	I	R	O	U	G	A	I	K	D
F	C	O	M	P	I	L	E	R	B	G	E
B	O	C	A	C	H	E	G	E	O	L	Y
Q	K	A	L	G	O	R	I	T	H	M	U



Words to Search

BUG	ENCRYPTION
DECIMAL	ALGORITHM
SOFTWARE	DEVICES
BACKEND	VECTOR
PYTHON	CACHE

PUZZLE TIME

The Missing Code !

1. You have the following incomplete C++ code that is supposed to output "Hello, User!" to the console:

```
#include
using namespace std;
int main() {
    _____ "Hello, User!" ;
    return 0;
}
```

Fill in the blanks (_____).

- a) System.out.println<<
- b) printf<<
- c) print<<
- d) cout<<

2. Which data structure is used for the implementation of recursion?

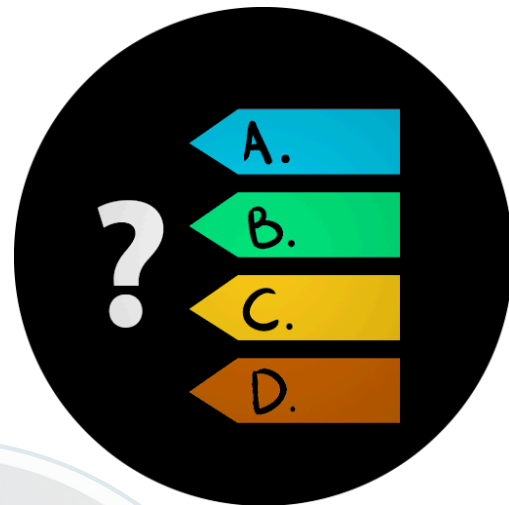
- a) Queue
- b) Stack
- c) Linked List
- d) Binary Tree

3. What is the correct way to open a file for reading in Python?

- a) open('file.txt', 'w')
- b) open('file.txt', 'r')
- c) open('file.txt', 'rb')
- d) None of the above

4. Which of the following algorithms is a divide-and-conquer algorithm?

- a) Merge Sort
- b) Bubble Sort
- c) Insertion Sort
- d) Selection Sort



5. What will be the output of the following code?

```
print(type(5 / 2))
```

- a) <class 'int'>
- b) <class 'float'>
- c) <class 'double'>
- d) None of the above

6. Which CSS property is used to change the font of an element?

- a) font-size
- b) font-family
- c) font-weight
- d) text-font

7. Which of the following protocols is used for secure web browsing?

- a) HTTP
- b) FTP
- c) HTTPS
- d) SMTP

8. Which of the following operators is used to access members of a structure via a pointer in C?

- a) .
- b) ->
- c) []
- d) *

Careers in Data Science



Data Scientist



BI Analyst



Data Engineer



Data Architect



Statistician



NLP Engineer



ML Engineer



AI Engineer



Database
Administrator



Business
Analyst

JANUARY 18, 2025

ISSUE : 001

VOLUME I



ASCII

BIMONTHLY NEWSLETTER

BYTES OF TECHNOLOGY & TRENDS



TECH ENTHUSIASTS CAN SHARE THEIR ARTICLES AND CONTENT
FOR THE NEWSLETTER AT : techclub@nirmala.edu.in



+91 77150 91244



nmfdegree.edu.in