Introduction

Coding is the process through which we give instructions to a computer to perform a specific task. But the question is: how can we give instructions to a computer ? Can we communicate with a computer in the same way that two people converse with each other?
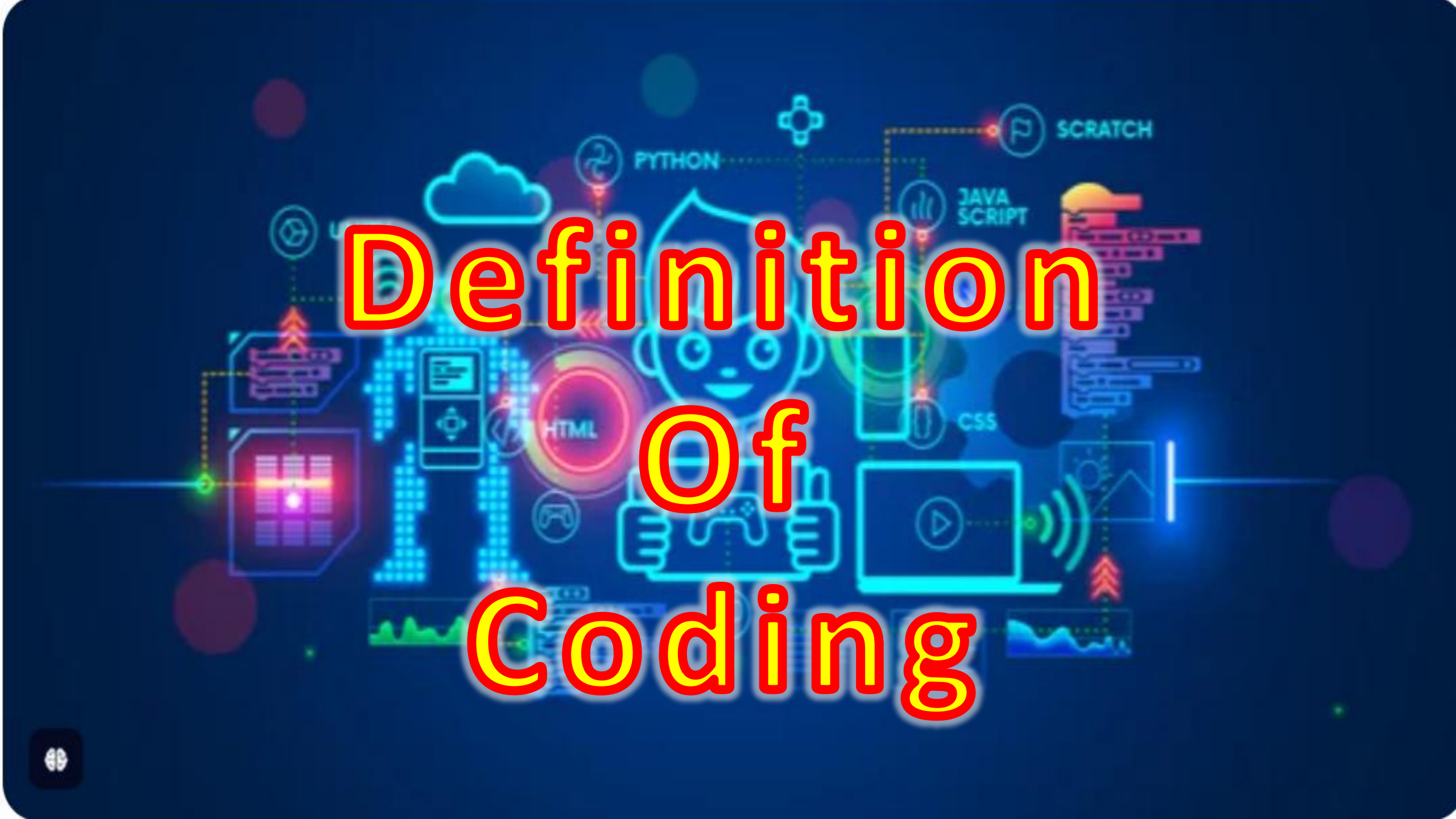
Introduction

When a person wants to give instructions to another, they must use a language the other person understands—otherwise, the message won't be understood and the task won't be carried out.

The same principle applies to computers.

Introduction

If you want a computer to perform a task, you must give it instructions in a language it understands. Only then will the computer be able to interpret and execute those instructions. Through coding, we give instructions to the computer in its language so that it can carry out the tasks we assign to it.
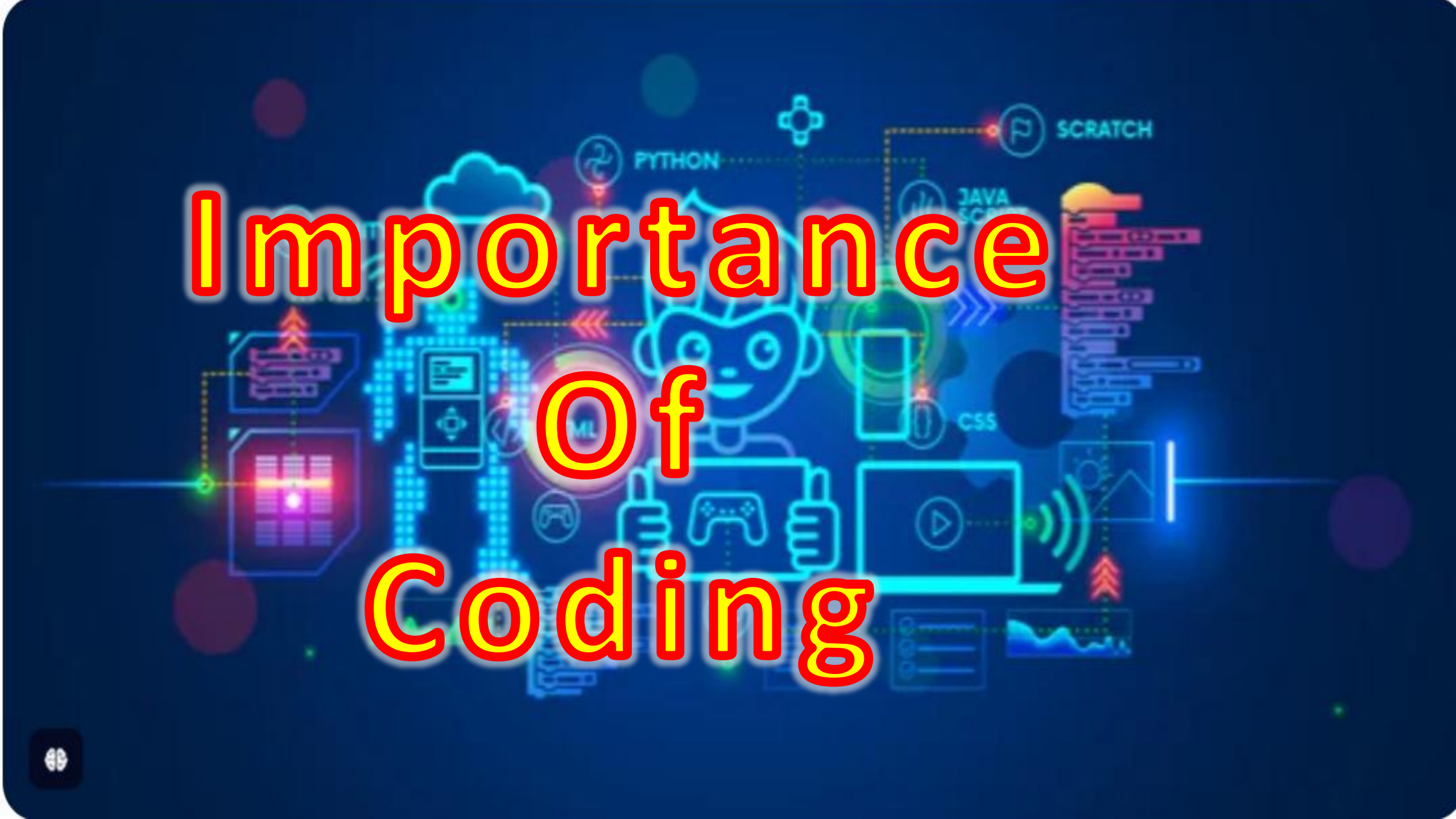
Definition
Of
Coding

Definition

Coding (also known as programming) is the process of writing instructions that a computer can understand and execute.

Definition

Coding is like giving step-by-step directions to a computer to make it do something — like showing a picture, solving a math problem, or running a game..

Importance Of Coding

Importance of Coding

Think logically 🧠

Solve problems 🧩

Be creative 🎨

Usage of code

Importance of Coding

❑ Websites (like YouTube or Google)

❑ Mobile apps (like WhatsApp)

❑ Games (like Minecraft)

❑ Robots and smart devices

❑ Data analysis or machine learning

Introduction of python

In yesterday's class we learned about coding and its utility. As we know that coding is a process of writing instructions that the computer can understand and execute. But to write those instructions we need a language that the computer can understand. Such a language is called a computer language or programming language. Python is one such popular programming language that we are going to learn..

Introduction of python

Python is a high-level general purpose programming language which is simple and easy to learn.it was developed by Guido van Rossum in 1991

Introduction of python

Although Python is not a human language, we will follow the same steps to learn Python as we follow to learn any normal language.

Steps for learning python

Character set	Words	Sentence	Paragraph

1
Character Set

2
Identifier, constant , Keywords, Variables, operators

3
Statemets /Instructions

4
Program

Character Set

1. Alphabets   :   A-Z, a-z

2. Digits   : 0-9

3. Special Symbol   : #,! $ > < +- etc

Identifier

Identifiers are names used for variables, functions, classes, etc.

- It should be started with a letter or underscore (_)

- Special symbols are allowed in an identifier

Valid identifiers: age, studentname, admno, roll_no, _first, A123,

Invalid:my name, 4len, student-age, five$

Learning python

Constant/Literals

Constans or literal are fixed value that cannot be changed

- Integer: A whole number: 45 , 195, 2025 etc

- Float: A number with decimal points 45.0, 290.45, 0.005

- String : single character or group of character enclosed by either single quote('') or double quote("") 'vbcv', '192', "45.0" , "a", "#" " " etc

Learning python

keywords

Keywords are words that have a special meaning to Python.

Keywords cannot be used to create identifiers

If , else, print, input, for ,while, break, continue, def

Variable

A variable in Python is a name that refers to a value stored in memory.

A variable is acted as a container of data. A variable in a program represents the memory location where the actual data is stored

Age=45, myname="Kabir", salary=4500.00

Learning python

Operators	
Operators are special symbols or keywords in Python used to perform operations on variables and values	
Arithmetic operator	+,-,*, /,%, //,**
Conditional operator	< ,<=,>,>=,!=,==
Logical operator	and,or,not
Assignment operator	=

Learning python

Statements	
A statement in Python is an instruction that the Python interpreter can execute	
Assignment Statement	A=10, b=9*4 , s="soni"
output/input Statement	print("hello"), x=input()
Selection statement	If-else
Looping or iterative statement	for, while
Branching statement	break,continue

Learning python

Program

A program in Python is a collection of statements and instructions written in the Python programming language to perform a specific task or solve a problem.

Solving a problem may include	1. Variable declaration
1. Input	2. Take input
2. Process	3. Use formula or functions
3. output	4. Show result

Learning python

```python
p=int(input("Enter principal amount "))
r=int(input("Enter rate"))
t=int(input("enter time :"))
si=p*r*t/100
print("simple interest is ",si)
```

Learning python

So far we have learned how to use Python for coding. We have also learned the basic elements of Python that are used in coding. Today we will learn about the commands or statements used in decision making.
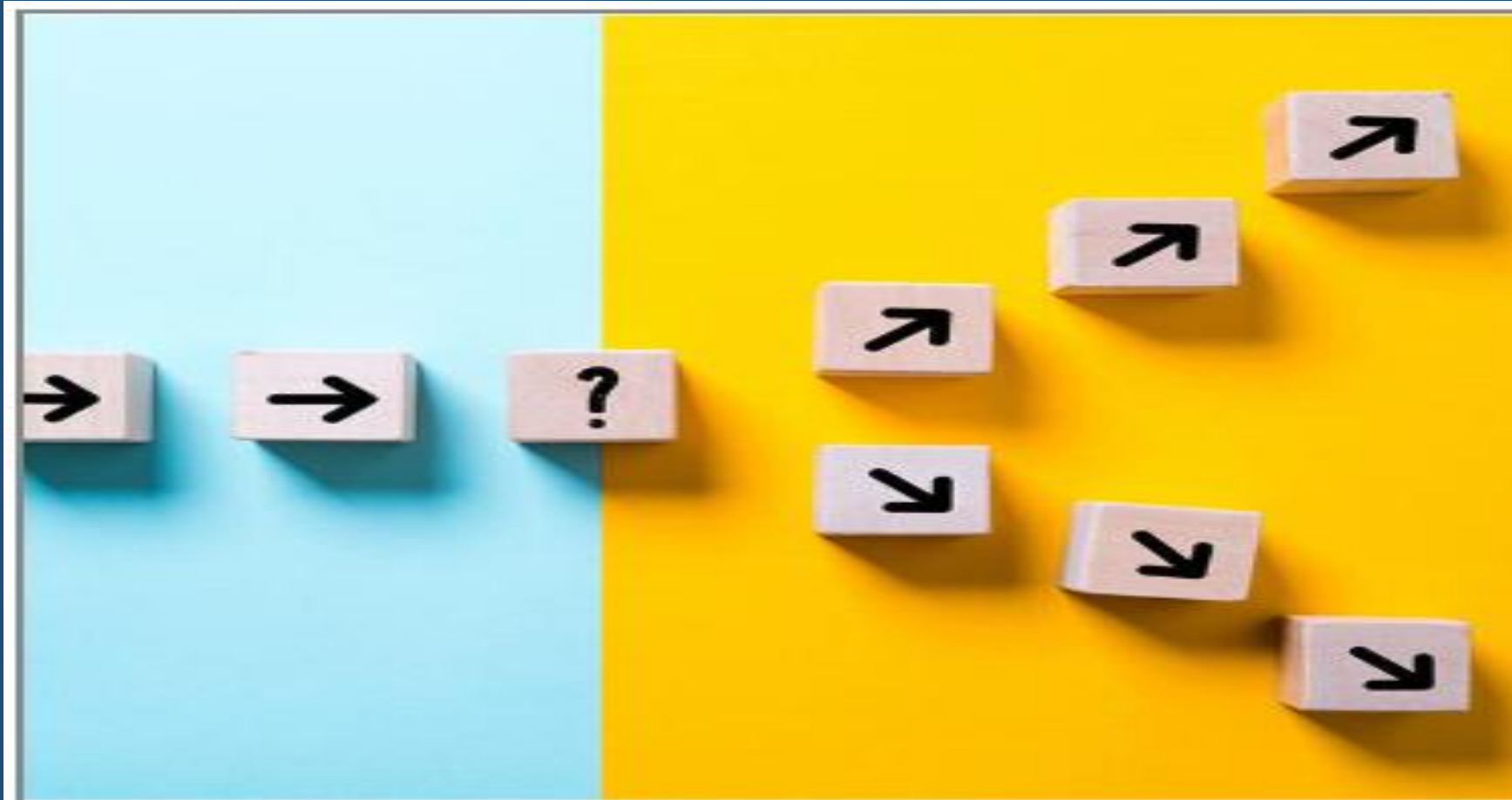
Decision Making Statement

Learning python

One of the many special characteristics of humans is our ability to make decisions. We check the situations before deciding to take any action. For example, when we go to the market to buy something, we check the price at two or three shops, and we buy the item from the shop where the price is lower and the quality is good. This means we use our decision-making ability to choose where to buy the product. We compare the prices of the items and then decide which shop we should buy from.Similarly, while solving a problem through coding, there are moments where we have to choose between two actions and ignore the other. The instruction that helps us solve such problems is called a **Decision-making statement**.

Decision making is an essential concept in any programming language and is required when we want to execute code when a specific condition is satisfied.

Now will learn about the famous **if-else** statement in Python

The if-else statement is used to execute both the true part and the false part of a given condition.

If the condition is true, the **if block** code is executed and if the condition is false, the **else block** code is executed.

Learning python

If condition :

    block 1(if condition is true)

else:

    block 2 (if condition is false)

Learning python

Write a program in python to find the greater number between two numbers

```
a=int(input("Enter first number"))
b=int(input("Enter Second Number"))
If a>b:
        print(a," is greater")
else:
        print(b,"is greater")
```

Learning python

Program based of if-else statement

1. Write a program to check whether a number is even or odd.
2. Write a program to check if a person is eligible to vote (age ≥ 18).
3. Write a program to find the greater number between two numbers.
4. Write a program to check if a number is divisible by 5 or not
5. Write a program to check whether a year is leap or not
6. Write a program whether 3 angles forms a valid triangle or not
7. Write a Python program to calculate and display the profit or loss amount.
8. Write a Python program to calculate the profit or loss percentage percentage