

* Python :

It is very easy computer language that helps us talk to the computer. we can use it to make websites, apps, games, or even do math and science work. It is simple to read and write, so beginners can learn it quickly.

* History of python :

python was created by 'Guido Van Rossum' in 1991. He wanted a language that was easy to read, simple, and powerful.

He named it python after a funny TV show called "Monty python's Flying Circus", not the Snake.

Since then, python became very popular and is now used all over the world for websites, apps, data science, AI and more.

* Advantages of python :

- easy to read and write
- Beginner friendly and quick to learn
- works on any computer
- has many ready-made libraries
- used in many areas- AI, websites, data science, games

* Disadvantages of python

- Slower than some other languages
- uses more memory
- mobile app development is not very strong with python.

- * Applications used by python
 - websites - making sites like instagram
 - Data Science - Studying data and finding patterns
 - Artificial intelligence - Chatbot, Self driving Cars.
 - Games - making simple and fun games
 - Apps - creating desktop or small mobile apps

* What is comment?

It means notes you write in your code to explain what it does. The computer ignores comments they are just for humans to read and understand the code better.

Types of Comments

- i) Single line Comment
- ii) Multiple line comment

i) Single line Comment

This is a single line Comment
print("Hello")

ii) Multiple line Comment

"""
This is a multiline comment.
It can take more than one line.
"""
print("Hello")

* Keywords:
Keywords are special words that have a fixed meaning and purpose.
eg if, else, for, while, class, def, import, True, False, none, and, or, not ... etc

* Variables:

Variables are like containers used to store data (numbers, words, etc).

eg: name = "Leena"
age = 21

here name and age are variables

• Valid Variables:

- must start with a letter or underscore (-)
- Can have letters, numbers and underscores
- Cannot be a keyword

eg: name, _count, age2, total_marks.

• Invalid Variables:

- 2 age (Cannot start with number)
- my_name (Cannot use -)
- class (keyword not allowed)
- total marks (no space allowed).

* Datatypes

It tells what kind of value a variable is storing (number, text, true/false, etc)

• Single datatype - stores only one type of value

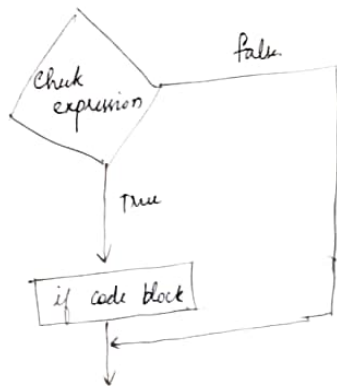
eg: age = 21 # int (number)

name = "Frens" # str (text)

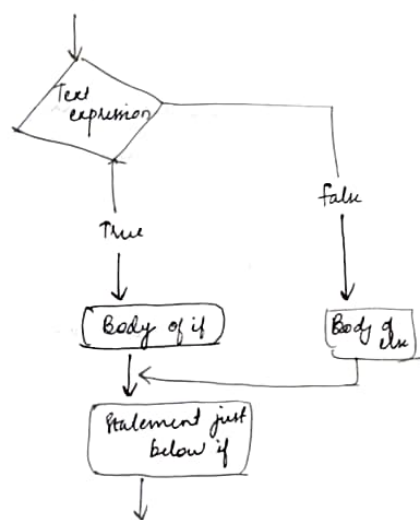
• multi valued datatype - stores diff types of values together, usually in a list, tuple or dictionary

eg: data = [21, "frens", True] # list with int, str, boolean

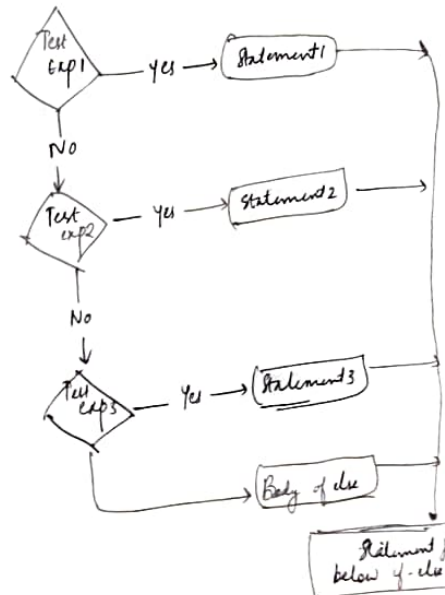
* if conditional statement flow control



Flow chart of if else



Flow chart elif



* Input and output function

input()

- used to take input from user

eg: name = input("enter your name: ")

age = int(input("enter your age: "))

print("Hello", name, "you are", age, "year old.")

print()

- used to display output

Simple print

print("welcome to python")

printing Variables

x = 10

print("Value of x is", x)

f- string (modern & recommended way)

name = "Aline"

print(f"Hello, {Name}!")

using format ()

marks = 95

print ("you scored {} marks.".format (marks))

Conditional Statements

executes code only if the condition is true.

if Syntax

if condition :

Statement

eg: age = int (input ("enter the age: "))

if (age >= 18):

print ("you are eligible to vote")

if else Syntax

if condition :

code if true

else :

code if false

eg: num = int (input ("enter a number: "))

if num % 2 == 0:

print ("even no")

else :

print ("odd no")

elif Syntax

if Condition 1:

Statement Cond 1

elif Cond 2:

Statement Cond 2

elif Cond 3:

Statement Cond 3

else:

code if all conditions are false

eg: marks = int(input("enter your marks: "))

if (mark >= 90):

print("grade A")

elif (mark >= 75):

print("grade B")

elif (mark >= 50):

print("grade C")

else:

print("grade fail")

Nested if else Syntax

if Cond 1:

if Cond 2:

Code if both conditions true

else:

Code if Cond 1 true but Cond 2 false

else:

Code if Cond 1 false

eg: num = int(input("enter a no: "))

if (num >= 0):

if (num == 0):

print("no is zero")

else: print("no is positive")

else: print("no is -ve")