PYTHON – BASIC IMPORTANT KEYPOINTS.

TOPIC 1 – BASICS OF PYTHON

* DEFINITION: - It is a general-purpose, high-level language which has easy syntax and dynamic semantics.

It was developed in 1989 by Guido Van Rossum.

* Python is very popular because it is easy to use, free for everyone, gives library and support as well as the applications.
* FEATURES: - Simplicity, Open source, Portability, Huge libraries, Object Oriented, Embeddable & Extensible and Interpreted.

Embeddable means that we can execute the Python code from an application which is coded in another language.

* The popularity of Python came into existence when AI was being developed. During this the programmers started using Python on a high note and it began to become a major programming language, it was around 2020.

TOPIC 2 – BASIC BUILDING BLOCKS

* Comments in Python are sentences which describe what a block of code means.

We always start the comments with a # symbol.

When a # symbol is used, Python automatically describes it as a comment and whatever we write after the # symbol it is all not considered as a block of code.

* Identifiers in Python are the names given to entities like class, functions, variables, etc.

An identifier cannot be started with a digit as it describes it as invalid.

We can use underscore in identifiers, it can have a combination of both uppercase as well as lowercase and digits.

For e.g.: - myClass, Soham\_1, your\_Name\_is.

Keywords cannot be used in Identifiers.

* Keywords in Python are some predefined words in Python that have special meaning.

They cannot be used as a variable name, function name or any identifier.

All the keywords except True, False and None are used in lowercases.

* Variables in Python are basically containers for storing data values.

Python has no command for declaring a variable.

Whenever you assign a value, a variable is automatically created.

For e.g.: - x = 5, y = “Soham”.

* Indentation in Python is used to define the block of code as we do not use curly braces for that in Python.

Four whitespaces are used for Indentation and are preferred over tabs.

TOPIC 3 – OPERATORS

* Operators are the symbols used in the code to give a defined result.

There are seven types of operators and are as follows: -

1. Arithmetic Operators: -

(+) – This is used to add two operands.

(-) – This is used to subtract two operands.

(\*) – This is used to multiply two operands.

(/) - This is used to divide the left operand with the right operand.

1. Assignment Operators: - These are used to assign the values to the variables.

(=) – x = 5, x=5

(+=) – x+=5, x=x+5

(-=) – x-=5, x=x-5

(\*=) – x\*=5, x=x\*5

(/=) – x/=5, x=x/5

(%=) – x%=5, x=x%5

1. Comparison Operators: -

(>) – Condition is True if left operand is greater than the right operand.

(<) – Condition is True if left operand is less than the right operand.

(==) - Condition is True if the left operand is equal to the right operand.

(!=) - Condition is True if the left operand is not equal to the right operand.

1. Logical Operators: -

(and operator) – True if both the operands are True.

e.g.: - x=True, y=False

print (“x and y is”, x and y) – x and y is False.

(or operator) – True if either of the operands is True.

e.g.: - x=True, y=False

print (“x or y is”, x or y) – x or y is True.

(not operator) – True if the operand is False.

e.g.: - x=True, y=False

print ("not x is”, not x) – not x is False.

1. Identity Operators: -

(is operator) – Condition is True if Operand refers to the same Object.

e.g.: - x = 5, x is 5, True.

(is not) – Condition is True if Operand does not refer to the same Object.

e.g.: - x = 5, x is not 5, False.

1. Membership Operators: -

(in operator) – Condition is True if the given value or variable exists in the sequence.

e.g.: - x = [Mahesh ka bdayyyy]

Mahesh in x – True

(not in operator) – Condition is False if the given value or variable exists in the sequence. e.g.: - x = [Mahesh ka bdayyyy]  
 Mahesh not in x - False