COMMENTS, VARIABLES, DATA TYPES AND OPERATORS IN PYTHON

**COMMENTS:**

1. **What is comment?**

* Comments are lines that exit in computer programs that are ignored by compilers and interpreters.
* Using comments in programs can make code more readable for humans.
* There are two types of comments:

1. Single-line comment
2. Multi-line comment

Single-line comment:

* We use the hash [#] symbol in Python to write the single-line comment.
* Single line comment also known as In-line comment.

Example: #This is a program

Print(“Welcome to the world”)

Output: Welcome to the world.

Note: It ignores the text after the # symbol.

Multi-line comment:

* We can write multi-line comments using single(‘ ’), Double(“ ”), and triple quotes (”’).
* It is also known as Block comment.

Example: ’This is a Python code’

“This is a Python code”

’’’ This is a python code”’

Print(“Python is a high-level language”)

Output: Python is a high-level language.

Note: It ignores the quotation between text.

**VARIABLE:**

**2. What is a Variable?**

* Python variables are containers that store values.
* A Python variable is a name given to a memory location.
* Variables are CASE SENSITIVE.
* Rules of creating Python variables:

1. We can use Alphabets.

2. We can't use numbers and special characters.

Example: A=10

B=5

Print(A)

Print(B)

Output:10

5.

Note: A and B represent Variable names

10 and 5 represent Variable values.

**DATATYPES:**

**3.** **What is a Data type?**

* Python data type identifies the type of data that a variable can store.

**Data types**

Complex

Float

Integer

String

Boolean

* Integer:
* This value is represented by the ‘int’ class.
* It contains positive, negative, and whole numbers.
* Example: 10,20,30 etc.
* String:
* This value is represented by the ‘str’ class.
* It contains an alphabet characters.
* Example: Bhavya, Devi.
* Float:
* This value is represented by the ‘float’ class.
* It is specified by a decimal point.
* Example: 10.35,15.8.
* Boolean:
* This value is represented by the ‘Bool’ class.
* It contains a true or false value.
* Example: a>b, a<b.
* Complex:
* Complex numbers are represented by complex classes.
* It is specified as a real part and an imaginary part.
* Example: B=2+3j.

**OPERATORS:**

4**. what is an operator?**

* Python operators in general are used to perform operations on values and variables.
* Types of operators:

Operators

membership

Logical

Assignment

Bitwise

Identity

Relational

Arithmetic

* **Arithmetic operator**:
* It is a mathematical function that performs a calculation on two operands.
* Example: A=20 and B=10
* Addition: A+B
* Subtraction: A-B
* Multiplication: A\*B
* Division: A/B
* Modulous: A%B
* Floor Division:A//B.

Solution:

print(A+B) (#Addition)

Output:30

Print(A-B) (#Subtraction)

Output: 10

Print(A\*B) (#Multiplication)

Output:200

Print(A/B) (#Division)

Output:2.0

Print(A%B) (#Modulous)

Output: 0

Print(A//B) (# Floor Division)

Output: 2.

* **Assignment operator:**
* It is used to assign a value to a variable.
* Example: a=10 and b=5

Solution:

Print(a<<b)

Output: 320

Print(a>>b)

Output: 0

Print(a^b)

Output: 15

Print(a&b)

Output: 0

* **Comparison operator:**
* It is used to compare two operands.
* Example: a=50 and b=40

Solution:

Print(a==b) (# a equal to equal to b)

Output: False

Print(a!=b) (# a not equal to b)

Output: True

Print(a>b) (# a greater than b)

Output: True

Print(a<b) (# a less than b)

Output: False

Print(a>=b) (# a greater than or equal to b)

Output: True

Print(a<=b) (# b greater than or equal to b)

Output: False.

* **Logical operator:**
* It is used to combine Conditional statements.
* In logical operator we have three types:

AND

OR

NOT

AND: It will give true if both statements are true

Example: a=10

b=5

print(a and b)

output: 5

OR: It will give true if any of the statement is true.

Example: print(a or b)

Output: 10.

NOT: It reverse the result.