21 May

Python Basic - 2

* 1. Q.1.Create two int type variables, apply addition, subtraction, division and multiplications and store the results in variables. Then print the data in the following format by calling the variables:

First variable is & second variable is . Addition: + =

Subtraction: - = Multiplication: \* = Division: / =

Ans:

#Input

# Create two int type variables

first\_variable = 10

second\_variable = 5

# Perform addition, subtraction, multiplication, and division

addition\_result = first\_variable + second\_variable

subtraction\_result = first\_variable - second\_variable

multiplication\_result = first\_variable \* second\_variable

division\_result = first\_variable / second\_variable

# Print the results

print("First variable is", first\_variable, "& second variable is", second\_variable)

print("Addition:", first\_variable, "+", second\_variable, "=", addition\_result)

print("Subtraction:", first\_variable, "-", second\_variable, "=", subtraction\_result)

print("Multiplication:", first\_variable, "\*", second\_variable, "=", multiplication\_result)

print("Division:", first\_variable, "/", second\_variable, "=", division\_result)

#Output

First variable is 10 & second variable is 5.

Addition: 10 + 5 = 15

Subtraction: 10 - 5 = 5

Multiplication: 10 \* 5 = 50

Division: 10 / 5 = 2.0

* 1. Q.2.What is the difference between the following operators:

1. ‘/’ & ‘//’
2. ‘\*\*’ & ‘^’

Ans:

(i) '/' and '//' operators:

'/' (Division operator): This operator performs division between two numbers and returns the quotient as a floating-point or decimal value. For example, 5 / 2 would result in 2.5.

'//' (Floor division operator or integer division): This operator also performs division between two numbers but returns the quotient as an integer, discarding any fractional part. It gives you the whole number of times the divisor can be divided into the dividend. For example, 5 // 2 would result in 2.

In most programming languages, '/' performs floating-point division, while '//' performs integer division.

(ii) '\*\*' and '^' operators:

'\*\*' (Exponentiation operator or power operator): This operator raises a number to the power of another number. For example, 2 \*\* 3 would result in 8 (2 raised to the power of 3).

'^' (Bitwise XOR operator): This operator performs the bitwise exclusive OR operation on two numbers. It compares the binary representation of the numbers bit by bit and returns a number where each bit is the result of the XOR operation on the corresponding bits of the two numbers.

* 1. Q.3.List the logical operators.
  2. Ans:
  3. Logical operators are symbols or words used to combine and manipulate logical expressions in programming and mathematics. The most common logical operators are:
  4. AND (&&): This operator returns true if both operands are true; otherwise, it returns false.
  5. OR (||): This operator returns true if at least one of the operands is true; otherwise, it returns false.
  6. NOT (!): This operator negates the truth value of the operand. If the operand is true, the result is false, and if the operand is false, the result is true.
  7. Explain right shift operator and left shift operator with examples.
  8. Q.4.Create a list containing int type data of length 15. Then write a code to check if 10 is present in the list or not.
  9. Ans:
  10. import random
  11. # Create a list of 15 random integers
  12. my\_list = [random.randint(1, 20) for \_ in range(15)]
  13. # Check if 10 is present in the list
  14. if 10 in my\_list:
  15. print("10 is present in the list.")
  16. else:
  17. print("10 is not present in the list.")