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:

Ans - # Creating two int variables

num1 = 10

num2 = 5

# Performing addition, subtraction, division, and multiplication

addition\_result = num1 + num2

subtraction\_result = num1 - num2

division\_result = num1 / num2

multiplication\_result = num1 \* num2

# Printing the data in the requested format

print("Number 1:", num1)

print("Number 2:", num2)

print("Addition result:", addition\_result)

print("Subtraction result:", subtraction\_result)

print("Division result:", division\_result)

print("Multiplication result:", multiplication\_result)

out put

Number 1: 10

Number 2: 5

Addition result: 15

Subtraction result: 5

Division result: 2.0

Multiplication result: 50

First variable is \_\_ & second variable is \_\_.

Addition: \_\_ + \_\_ = \_\_

Subtraction: \_\_ - \_\_ = \_\_

Multiplication: \_\_ \* \_\_ = \_\_

Division: \_\_ / \_\_ = \_\_

Ans- Using the provided values, here are the results for the arithmetic operations:

Addition: 10 + 20 = 30

Subtraction: 10 - 20 = -10

Multiplication: 10 \* 20 = 200

Division: 10 / 20 = 0.5

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

1. ‘/’ & ‘//’
2. ‘\*\*’ & ‘^’

Ans - (i) The '/' operator performs division and returns a floating-point result, while the '//' operator performs floor division and returns an integer result by discarding the decimal part.

(ii) The '\*\*' operator raises a number to a power (exponentiation), while the '^' operator is not a built-in operator in Python.

* 1. List the logical operators.

Ans – The logical operators in Python are:

- "and" operator: Returns True if both operands are True.

- "or" operator: Returns True if at least one operand is True.

- "not" operator: Returns the opposite of the operand's logical value (True becomes False and vice versa).

* 1. Explain right shift operator and left shift operator with examples.

Ans - The right shift (>>) operator shifts bits to the right, dividing by 2. The left shift (<<) operator shifts bits to the left, multiplying by 2. Example: 8 >> 2 = 2, 2 << 3 = 16.

* 1. 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.

Ans - num\_list = [5, 8, 2, 15, 10, 12, 7, 3, 6, 1, 9, 11, 4, 13, 14]

if 10 in num\_list:

print("10 is present in the list.")

else:

print("10 is not present in the list.")