

Assignment-7

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 ___.

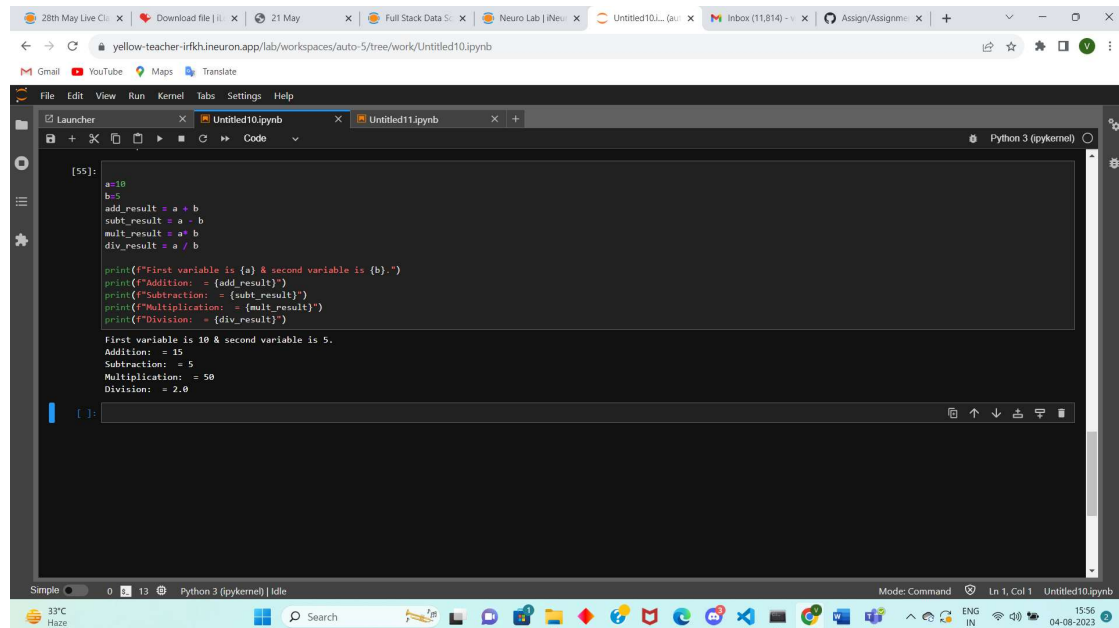
Addition: ___ + ___ = ___

Subtraction: ___ - ___ = ___

Multiplication: ___ * ___ = ___

Division: ___ / ___ = ___

Ans:-



```
[55]: a=10
      b=5
      add_result = a + b
      sub_result = a - b
      mult_result = a * b
      div_result = a / b

      print("First variable is (a) & second variable is (b).")
      print("Addition: = (add_result)")
      print("Subtraction: = (sub_result)")
      print("Multiplication: = (mult_result)")
      print("Division: = (div_result)")

First variable is 10 & second variable is 5.
Addition: = 15
Subtraction: = 5
Multiplication: = 50
Division: = 2.0
```

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

- (i) '/' & '//'
- (ii) '**' & '^'

Ans:-

- i) '/' & '//'
 - a) / is a division operator . It perform regular division & return quotient as a floating point number.
 - b) // is the floor division operator . It also perform division but it returns only the integer part of the quotient & discards the decimal part of the division.
- ii) '**' & '^'
 - a) ** is the exponentiation operator . It raises the left operands to the power of the right operand . ex:- 2**3 would result in 8
 - b) ^ is used as a bitwise XOR operator..

Q.3. List the logical operators.

Ans:- Following are the common logical operator:-

AND operator(and):- Return true if both operands are true.

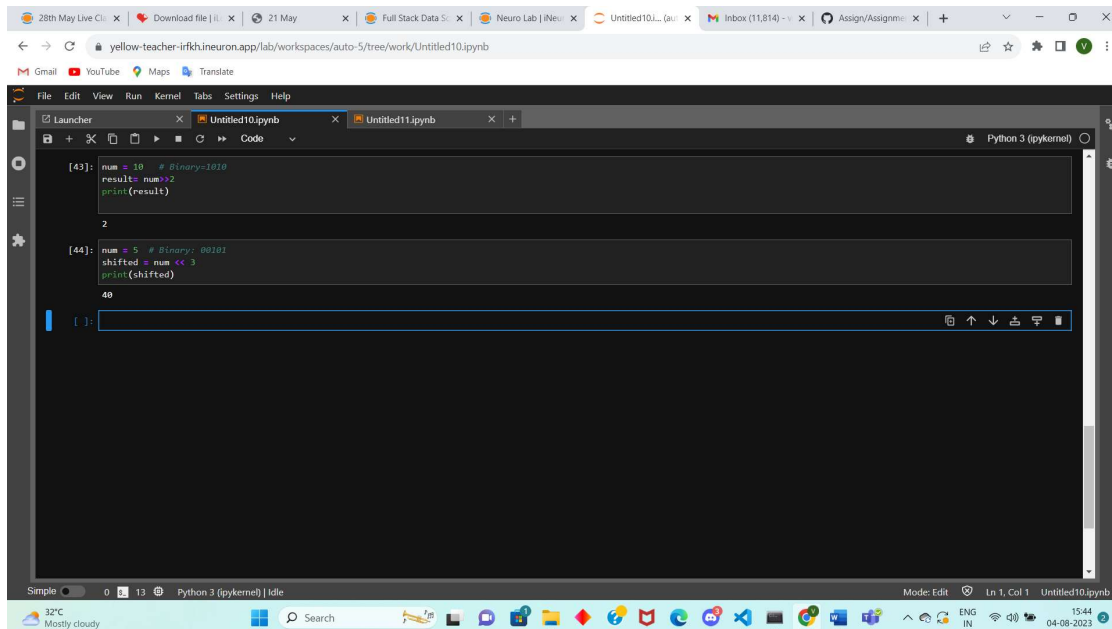
OR operator(or):- Return true if at least one operands is true.

Not operator(not):- Return the opposite value of operand.

Q.4. Explain right shift operator and left shift operator with examples.

Ans:- **Right Shift operator(>>):-** The right shift operator shifts the bits a number to the right by a specified number of position .

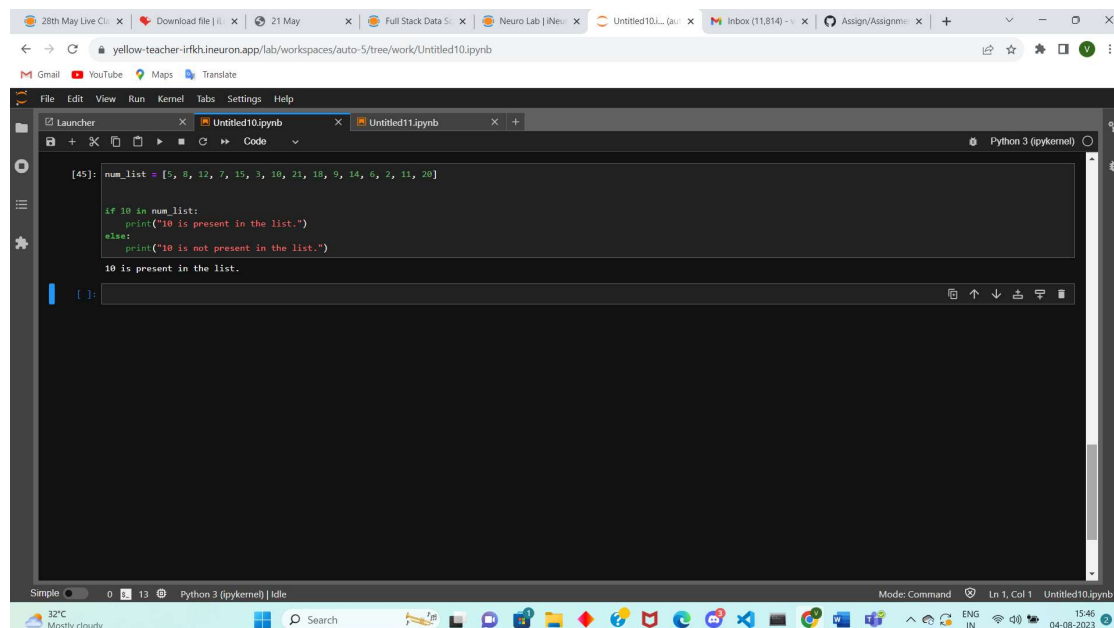
Left Shift operator (<<):-The left shift operator shifts the bits a number to the left by a specified number of position .



The screenshot shows a Jupyter Notebook interface with two code cells. The first cell, labeled [43], contains the following code: `num = 10 # Binary: 1010`, `result = num >> 2`, and `print(result)`. The output of this cell is the number 2. The second cell, labeled [44], contains the following code: `num = 5 # Binary: 00101`, `shifted = num << 3`, and `print(shifted)`. The output of this cell is the number 40. The notebook is running on a Python 3 (ipykernel) environment.

Q.5. 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:-



The screenshot shows a Jupyter Notebook interface with one code cell, labeled [45]. The code in the cell is: `num_list = [5, 8, 12, 7, 15, 3, 10, 21, 18, 9, 14, 6, 2, 11, 20]`, followed by an if-statement: `if 10 in num_list:`, which contains `print("10 is present in the list.")` and `else:`, which contains `print("10 is not present in the list.")`. Below the code, the output is displayed: `10 is present in the list.` The notebook is running on a Python 3 (ipykernel) environment.