Assignment 7

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: __ / __ = __

Snippet:

```
value1 = int(input("enter the value1: "))
value2 = int(input("enter the value2: "))
addition = value1 + value2
subtraction = value1 - value2
multiplication = value1 * value2
division = value1 / value2
print('---------------------------------------------------')
print('Addition        :',value1,' + ',value2,' = ',addition)
print('Subtraction     :',value1,' - ',value2,' = ',subtraction)
print('Multiplication  :',value1,' * ',value2,' = ',multiplication)
print('Division         :',value1,' / ',value2,' = ',division)
print('---------------------------------------------------')
```

Output:

```
enter the value1: 10
enter the value2: 20
---------------------------------------------------
Addition        : 10  +  20  =  30
Subtraction     : 10  -  20  =  -10
Multiplication  : 10  *  20  =  200
Division         : 10  /  20  =  0.5
---------------------------------------------------
```

2. What is the difference between the following operators:

(i) '/' & '//'

(ii) '**' & '^'

   (i) '/' & '//'

      Forward slash ('/') operator performs normal division and returns the quotient value as float value even if the input is given as integer values.

      Snippet:
      a = 7/3
      print(a)

      Output:
      / Operator: 2.3333333333333335

      Backward slash ('//') operator performs division but returns the quotient value round off value even if the input is given as integer values.

      Snippet:
      b = 7//3

print(a)

Output:
//Operator: 2

(ii) '**' & '^'\

Exponention operator (**):
  It is used for exponention (power of numbers).
Snippet:
  a= 8 ** 2
  print(a)
Output:
64

Bitwise operator (^):
  It is a bitwise XOR.
Snippet:
  b = 5^3
  print(b)
Output:
  6

3.List the logical operators.

The logical operators are AND, OR, NOT.

AND Operator - It will return true if both statements are true.
a = true
b = false
print(a and b)
output:
false

OR Operator - It will check for any of the one statement whether it is true.
print(a or b)
output:
true

NOT Operator - It will reverse the result. if statement is false, it will return true else if statement is true, it will return false.
print(not(a))

output:
false

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

Right shift operator (>>):
Right shift operator (>>) shifts the bits of first operand to right and second operand will decide the number of places to shift. Each shift to the right effectively divides the number by 2.

Left Shift operator (<<):
Left shift operator (<<) shifts the bits of first operand to left and the second operand decides the number of places to shift. Each shift to the left effectively multiplies the number by 2

Example:
a = 10
c = a<<3 // left shift operation
b = a>>2// right shift operation
print('Left Shift operation by 3',c)
print('Right Shift operation by 2',b)

Ouput:
Left Shift operation by 3: 80
Right Shift operation by 2: 2

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.

Snippet:
my_list =[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15]
if 10 in my_list:
   print('10 is present in the list')
else:
   print('10 is not present in the list')

Output:
10 is present in the list