PYTHON BASICS-2

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:

```
a=int(input())
b=int(input())
print("First variable is",a,end=" ")
print(" & second variable is",b)
print('Addition:',a,'+',b,'=',a+b)
print('subtraction:',a,'-',b,'=',a-b)
print('multiplication:',a,'*',b,'=',a*b)
print('division:',a,'/',b,'=',a/b)
```

output:

First variable is 4 & second variable is 2

Addition: 4 + 2 = 6

subtraction: 4 - 2 = 2

multiplication: 4 * 2 = 8

division: 4 / 2 = 2.0

2. What is the difference between the following operators:

(i) ‘/’ & ‘//’

(ii) ‘**’ & ‘^’

Ans:

i. ‘/’ Divides the value on the left by the one on the right. This operator always gives the floation point value.where as ‘//’ divides and gives the integer type value

```
print(44/11)
```

output:

4.0

```
print(44//11)
```

output:

4

ii. ‘**’ Raises the first number to the power of the second.’^’ It performs bit by bit XOR(exclusive-OR) on the two values

```
print(3**2)
```

output:

9

```
print(3^2)
```

output:

1

3. List the logical operators.

Ans: There are Three logical operators they are and,or,not

```
n1=int(input())
n2=int(input())
if n1>10 and n2>10:
    print('numbers greater than 10')
elif n1>10 or n2>10:
```

```
    print('only one number is greater than 10')
```

output:

15

13

numbers greater than 10

```
n1=int(input())
n2=int(input())
if n1>10 and n2>10:
    print('numbers greater than 10')
elif n1>10 or n2>10:
    print('only one number is greater than 10')
```

output:

12

4

only one number is greater than 10

```
print(not(10))
```

output:

False

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

Ans:

Right Shift operator:

This is represented as >>. This operator shifts the bits towards its right it is also can be explained as it gives the output as number divided by the right shift value.

For example if we want to shit 4 by 2 positions we need to do 4>>2 hence the output 4/(2*2) i.e 1

```
a=4
print(a>>2) # right shift
```

output:

1

Left Shift:

This is represented as <<. This operator shifts the bits towards its left it is also can be explained as it gives the output as number divided by the left shift value.

For example if we want to shit 4 by 2 positions we need to do 4<<2 hence the output 4*(2*2) i.e 16.

```
a=4
print(a<<2) # left shift
```

output:

16

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:

```
l=[2,3,1,4,5,6,7,34,21,65,98,67,10,12,12]
print(10 in l)
```

output:

True

```
l=[2,3,1,4,5,6,7,34,21,65,98,67,11,12,12]
print(10 in l)
```

output:

False