Home Work II (Day 4)

Variables, Data Types, Logical, Membership and Identity Operators

1. **Python Swapping means interchanging the values of two variables. Eg: - if x is 10 and y is 5 then after swapping x will be 5 and y will be 10.**

2. **Numbers consist of all the numeric values. Numbers in Python are classified into the following data types.**

   ❖ **int -** Integers don't have decimal and can have any length as long as the required memory is available. For example, 3, 855, etc.
   ❖ **float -** Floating point numbers are the ones having decimal. For example, 2.564728.
   ❖ **complex -** Complex numbers, as in Mathematics, have the form a + bj, where a is the real part and b is the imaginary part. For example, 2 + 3j, 6j.

3. **What is the output of the following code?**

   ```
   x = 6
   y = 2
   print(x ** y)
   print(x // y)
   ```

4. **4 is 100 in binary and 11 is 1011. What is the output of the following bitwise operators?**

   ```
   a = 4
   b = 11
   print(a | b) print(a >> 2)
   ```

5. **What is the output of the following assignment operator?**
   ```
   y = 10
   x = y += 2
   print(x)
   ```

6. **What is the output of print(2 * 3 ** 3 * 4)?**

7. **What is the output of print(10 - 4 * 2)**

8. **What is the output of the expression print(-18 // 4)**

9. **What is the output of the following Python code?**

```
x = 10
y = 50
if x ** 2 > 100 and y < 100:
        print(x, y)
```

10. **What is the output of the following code?**

```
x = 100
y = 50
print(x and y)
```

11. **In Python 3, what is the output of type(range(5)). (What data type it will return).**

12. **What is the data type of print(type(10))**