Assignment No. – 02

1. What are the Boolean data type's two values? How do you go about writing them?

Boolean data type in python is one of the built-in data type in python. Boolean data type has only two value (1) **T**rue
  (2) **F**alse.

*Note : "T" in Ture and "F" in False must to be in Capital Word.

The output **<class 'bool'>** indicates the variable is a Boolean data type.
Exp.
    a = True
    type(a)

        <class 'bool'>

Any integer, floating-point number, or complex number having zero as a value is considered as False, while if they are having value as any positive or negative number then it is considered as True.

2. What are the three different types of Boolean operators?

Three different types of Boolean operators are :

1) The AND operator ("and")
2) The OR operator ("or")
3) The NOT operator ("not")

3. Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate).

OR Operator	AND Operator
True or Ture = True	True and Ture = True
True or False = True	True and False = False
False or Ture = True	False and Ture = False
False or False = False	False and False = False

NOT- Operator
not(True) = False
not(False) = True

4. What are the values of the following expressions?

Expression	Value
(5 > 4) and (3 == 5)	False
not (5 > 4)	False
(5 > 4) or (3 == 5)	True
not ((5 > 4) or (3 == 5))	False
(True and True) and (True == False)	False
(not False) or (not True)	True

5. What are the six different types of reference operators?

Operators are those whose perform some specific operations. Py6hon has a wide variety of operator. Python operators are categorized into
1. Arithmetic Operator
2. Comparison / Rational Operator
3. Assignment Operator
4. Logical Operator
5. Identity Operator
6. Membership Operator

6. How do you tell the difference between the equal to and assignment operators?

Equal to: We use two equal sign consecutively (" == "), it does pronunciates equal equal . It's a rational operator.

Assignment operators (=): when we assign any value to any variable, we use assign operator. We use single equal sign (" = ")

Exp.

```
X = 10
Y = 10
if  X == Y:
        print(" Both are equal")
else:
        print("Not same")
```

In above codes, we assign 10 for both the variable X and Y (This '=' is assignment operator) in conditional statement we use equal to (equal equal to – ' == ') to check whether both X and Y are same.

7.   **Describe a condition and when you would use one**.

Conditional function are used to deal with conditional statement like if there is some condition based upon which , it is decided whether the statement will be executed or not. Exp.

We have to find out which is greater between a and b
 Condition is if value of a is greater than the value of b then "a" is greater than "b" otherwise b is greater than a.

```
a = 10
b = 20
if a > b:
     print("a is greater than b")
else:
      print("b is greater than a")
```

Output : b is greater than a

8. Recognize the following three blocks in this code:

```
spam = 0
if spam == 10:
   print('eggs')                # Block A
   if spam > 5:
      print('bacon')            # Block b inside Block A
   else:
      print('ham')              # Block C inside Block A
   print('spam')
print('spam')
```

9. Create a programme that prints. If 1 is stored in spam, prints Hello; if 2 is stored in spam, prints Howdy; and if 3 is stored in spam, prints Salutations! if there's something else in spam.

```
spam = int(input())
if spam == 1:
   print("Hello;")
elif spam == 2:
   print("Howdy;")
elif spam == 3:
   print("Salutations!")
else:
   print("what to print in this case, is not mentioned in the question")
```

10. If your programme is stuck in an endless loop, what keys can you press?

" break " function is used to break any endless loop.

11. How can you tell the difference between break and continue?

A **break** function is used to terminate the loop and exit.

While **continue** function is used to skip the rest of the code inside a loop for the current iteration only. Loop does not terminate but continues on with the next iteration.

12.   In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

There is no difference between range(10), range(0, 10), and range(0, 10, 1), all represent the same value , output of all these three is same that is (0,1,2,3,4,5,6,7,8,9)

13. Using a for loop, write a short programme that prints the numbers 1 to 10 Then, using a while loop, create an identical programme that prints the numbers 1 to 10.

```
for i in range (0, 11):
   print(i)
```

```
i = 0
while i<=10:
    print(i)
    i+=1
```

14. If you had a bacon() function within a spam module, how would you call it after importing spam?