ASSIGNMENT 2

1.What are the two values of the Boolean data type? How do you write them?

The two values of Boolean data type are:

- True
- False

It can be written as **True**, **False**.

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

- AND(&&)
- OR(||)
- NOT(!)

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

The Truth tables of each Boolean operator are

1. **AND OPERATOR (&&):**

OPERAND A	OPERAND B	RESULTS
FALSE	FALSE	FALSE
FALSE	TRUE	FALSE
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE

2. **OR OPERATOR (||):**

OPERAND A	OPERAND B	RESULTS
FALSE	FALSE	FALSE
FALSE	TRUE	TRUE
TRUE	TRUE	TRUE
TRUE	FALSE	TRUE

3. **NOT OPERATOR (!):**

OPERAND	RESULTS
FALSE	TRUE
TRUE	FALSE

4. What are the values of the following expressions?

(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 comparison operators?

- **Equal To (==)**
  Returns True where both operands are equal. Otherwise, it will false.
  X==Y
- **Not Equal To (!=)**
  Returns True where both operands are not equal. Otherwise, it is True.
  X!=Y
- **Greater Than (>)**
  Returns True if the left operand is greater than the right operand otherwise, returns false.
  X>Y
- **Lesser Than (<)**
  Returns True if the left operand is lesser than the right operand otherwise, returns false.
  X<Y
- **Greater Than or Equal To (>=)**
  Returns True if the left operand is greater than or equal to the right operand otherwise, returns false.
  X>=Y
- **Lesser Than or Equal To (<=)**
  Returns True if the left operand is lesser than or equal to the right operand otherwise, returns false.
  X<=Y

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

Describe a condition and when you would use one?

Equal To operator – It should be used when to compare whether both operands are equal or not.

Assignment Operators – It should be used to assign the values to the variables.

X=10 \\Assignment Operator

Y=10 \\ Assignment Operator

X==Y \\ Comparison Operator

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print(‘eggs’)

if spam > 5:

print(‘bacon’)

else:

print(‘ham’)

print(‘spam’)

print(‘spam’)

The blocks are separated based on the indentation levels in python.

First Block will be first if statement

```
spam = 0
if spam == 10:
   print('eggs')
```

Second Block will be second if statement

```
if spam > 5:
    print('bacon')
```

Third Block will be else block for second if statement

8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.

```
spam = int(input("Enter the value: "))
if spam ==1:
   print("Hello")
elif spam ==2:
   print("Howdy")
else:
 print("Greetings!")
```

9.If your programme is stuck in an endless loop, what keys you'll press?

Press I key from keyboard twice to interrupt the kernel.

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

Break statement will immediately terminate the current loop and executes next statement after the loop.

Continue statement will skip the current iteration and moves to the next iteration.

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

range(10)

This expression generates sequence of characters from 0 to 9.

range(0,10)

This expression generates sequence of characters from 0 to 9. In this it will starts from starting point(0) and end will not be same as specified it will be lesser than the specified value.

range(0,10,1)

This expression generates sequence of characters from 0 to 9. In this starting point will be 0 , ending point will be (10-1) and 1 will be step size increment (i.e it will be incremented by 1)

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.

Using For loop:

```
num = int(input("Enter the value: "))
for i in range(1,num+1):
        print(i)
```

Using While loop:

```
num = int(input("Enter the value: "))
i = 1
while(i<=num):
  print(i)
  i=i+1
```

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?

```
import spam
spam.bacon()
```