1.What are the two values of the Boolean data type? How do you write them?'
Ans –
The two values of Boolean data type are True and False.
They are written as –
- var_name = True
- var_name = False

2. What are the three different types of Boolean operators?
Ans –
In Python, there are three different types of Boolean operators used to combine or manipulate Boolean values. These operators are:

Logical AND –
- It can be represented using the "and" keyword.
- The logical AND operator returns True if both operands evaluate to True, otherwise it returns False.

Logical OR –
- It can be represented using the "or" keyword.
- The logical OR operator returns True if at least one of the operands evaluates to True, otherwise it returns False.

Logical NOT (not) –
- It can be represented using the "not" keyword.
- The logical NOT operator returns the opposite Boolean value of the operand. If the operand is True, it returns False, and if the operand is False, it returns True.

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).
Ans –
AND Operator Truth Table –

A	B	A and B
True	True	True
True	False	False
False	True	False
False	False	False

OR Operator Truth Table –

A	B	A or B
True	True	True
True	False	True
False	True	True
False	False	False

NOT Operator Truth Table –

A	not A
True	False
False	True

4. What are the values of the following expressions?
Ans –

Expression	Answer
(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?

Ans –

The Six comparison Operators –

- Equal to (==)
- Not Equal to (!=)
- Greater Than (>)
- Greater than or Equal to (>=)
- Less than (<)
- Less than or equal to (<=)

6. How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.

Ans -

The equal to operator (==) is used for comparison and checking equality between two values,

The assignment operator (=) is used to assign a value to a variable.

To differentiate between the two operators, consider the following example:

```
a = 7
b = 5
if x==y:
    print(a is equal to b")
else:
    print("a is not equal to b")
```

7. Identify the three blocks in this code:

Ans –

```
        spam = 0
        Block 1 -
          if spam == 10:
              print('eggs')
        Block 2 -
          if spam > 5:
              print('bacon')
          else:
              print('ham')
        Block 3 -
          print('spam')
          print('spam')
```

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.

Ans –

```
spam = int(input())

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?

Ans – To stop the endless loop, we can press **"ctrl + c"**

10. How can you tell the difference between break and continue?
Ans –
Break and Continue are two control flow statements used within loops to alter the normal execution flow.

break – break statement immediately terminates the loop and continues executing the code after the loop.

```
for i in range(15):
    if i == 10:
        break
    print(i)
```

continue – continue statement skips the remaining statements in the loop and jumps to the next iteration.

```
for i in range(15):
    if i == 10:
        continue
    print(i)
```

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?
Ans –
range(10) –
The range(10) function assumes the start value as 0 if not provided explicitly. This expression generates a sequence of numbers starting from 0 and ending at 9.

range(0, 10) –
This expression explicitly specifies the start value as 0 and the end value as 10 (exclusive). It generates a sequence of numbers starting from 0 and ending at 9

range(0, 10, 1) –
This expression includes an additional parameter, the step size, which determines the increment between consecutive values. It generates a sequence of numbers starting from 0 and ending at 9, incrementing 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.
Ans –

For loop –

```
for i in range(1,11):
    print(i)
```

While Loop –

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

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?
Ans –
We can access the bacon function after importing spam module by using the dot notation.

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