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

Ans - the two values of the Boolean data type is true or false if the condition fulfils the criteria then it will be true if not then false. Boolean values are often used in conditions and control flow statements (e.g., if statements, while loops) to make decisions based on whether a condition is true or false.

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

Ans - the three different types of Boolean operators are “and , or , 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 ).

Ans - AND Operator (and):

A B A and B

True True True

True False False

False True False

False False False

OR Operator (or):

A B A or B

True True True

True False True

False True True

False False False

NOT Operator (not):

A not A

True False

False True

4. What are the values of the following expressions?

1. (5 > 4) and (3 == 5)

2. not (5 > 4)

3. (5 > 4) or (3 == 5)

3. not ((5 > 4) or (3 == 5))

4. (True and True) and (True == False)

5. (not False) or (not True)

Ans :

1.False

2.False

3.True

4.False

5.False

6.True

5. What are the six comparison operators?.

Ans – These are six comparison operators

==

!=

>

<

>=

<=

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

Ans - ‘=’ sign is used to assign a value to variable and == sign is an comparison operator used to check if two values are equal.

user\_input = input("Enter a number: ")

number = 5

if int(user\_input) == number:

print("The entered number is equal to 5.")

else:

print("The entered number is not equal to 5.")

7. Identify the three blocks in this code:

Ans - #Block 1

spam = 0

#Block 2

if spam == 10:

print('eggs')

# Block 3

if spam > 5:

print('bacon')

else:

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.

Solution –

spam = int(input("enter the value as per your choice:" ))

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 - If program is stuck in an endless loop and we need to interrupt or terminate its execution, we can typically use a keyboard shortcut to forcefully stop the program.

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

Ans – break, statement is used to terminate the entire loop prematurely.

Continue - is used to skip the rest of the code inside the loop for the current iteration and move to the next iteration.

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

Ans - range(10): Generates values from 0 to 9 (default start is 0, and default step is 1).

range(0, 10): Generates values from 0 to 9 explicitly specifying start (0) and default step (1).

range(0, 10, 1): Generates values from 0 to 9 explicitly specifying start (0), end (10 is exclusive), and step (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 i in range(1, 11):

    print(i)

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 - import spam

spam.bacon()