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

Ans: Two Boolean values are True and False. We can write them by giving 0 or 1 values to the data type. 1 means true and 0 means false. Otherwise, we can pass an empty string to get false or any other word or integer to get true.

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

Ans: Three types of Boolean operators are AND, OR and 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 evaluates).

Ans: AND truth table:

Let's say A and B are variables we are passing values to and operator and R is the result.

|  |  |  |
| --- | --- | --- |
| A | B | R |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 1 | 1 |
| 1 | 0 | 0 |

OR truth table:

|  |  |  |
| --- | --- | --- |
| A | B | R |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 1 | 1 |
| 1 | 0 | 1 |

NOT truth table:

|  |  |
| --- | --- |
| A | R |
| 0 | 1 |
| 1 | 0 |

4. What are the values of the following expressions?

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

Ans: False

not (5 > 4)

Ans: False

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

Ans: True

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

Ans: False

(True and True) and (True == False)

Ans: False

(Not False) or (not True)

Ans: True

5. What are the six comparison operators?

Ans: Six comparison operators are == (equal to), < (less than), > (greater than), <= (less than equal to), >= (greater than equal to) and!= (not 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: Equal to operator (==) is used to check if two values are equal or not. For example,

a=10

a==b

In the above expression ‘a’ is equal to 10 which is also a value of ‘b’. Whereas, assignment operator is used to assign some value to any variable. For instance, in the above example a=10 is the assignment operator expression because we are assigning a value of 10 to a variable.

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') # This statement is block #1

if spam > 5:

print('bacon') # This statement is block #2

else:

print('ham') #block #3

print('spam') # block #3

print('spam') # block #3

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("Enter your 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: Ctrl+C

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

Ans: Break statement is used to come out of loop when a certain condition is met, whereas continue statement is used to continue running the loop by ignoring the given condition.

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

Ans: range(10): This function prints 0 to 9 integers when used in a for loop. This function uses 0 as default start value and step of 1 as default.

Range(0,10): In this function start value as 0 is given by the user with step of 1 as default. It will print the same as range(10).

Range(0,10,1): This function uses the syntax range(start, end, step) where 0 is the start value, 10 is the end value and 1 is the step value. It will also give the same value as above two functions but the difference here is we are giving all condition values instead of using default values.

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<11:

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?

Ans: spam.bacon()