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

The Boolean data type represents two values: true and false. They are used to represent logical conditions or binary choices.

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

3 types of Boolean operators are AND, OR, NOT operators.

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 ).

AND operator:

True AND True -> True

True AND False -> False

False AND True -> False

False AND False -> False

OR operator:

True OR True -> True

True OR False -> True

False OR True -> True

False OR False -> False

NOT operator:

NOT True -> False

NOT False -> True

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 (==)

Not equal to (!=)

Greater than (>)

Less than (<)

Greater than or equal to (>=)

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.

- Equal to (`==`) is used for comparison, checking if two values are equal.

- Assignment (`=`) is used for assigning a value to a variable.

Example:

Condition: `x == 5` compares if the value of `x` is equal to 5.

Assignment: `x = 5` assigns the value 5 to the variable `x`.

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')

Ans:

Block 1: Contains the assignment and conditional check for 'eggs'.

Block 2: Contains the conditional check for 'bacon'.

Block 3: Contains the else condition with the print statements for 'ham', 'spam', and '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.

spam = 0

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?

You can stop an infinite loop with CTRL + C .

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

“break” breaks out of the loop entirely and resumes execution after the loop.

“continue" skips the remaining statements for the current iteration and moves to the next iteration of the loop.

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

All three forms (range(10), range(0, 10), range(0, 10, 1)) will produce the same result of iterating from 0 to 9.

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 a for loop

for i in range(1, 11):

print(i)

# Using a 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?

import spam

spam.bacon()