Q1.What are the two values of the Boolean data type? How do you write them?

The two values of the Boolean data type are True and False.

Q2. What are the three different types of Boolean operators?

The three different types of Boolean operators are:

1. AND
2. OR
3. NOT

Q3. 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 ).

Boolean operator truth tables:

| A | B | A AND B | A OR B | NOT A |
| --- | --- | --- | --- | --- |
| True | True | True | True | False |
| True | False | False | True | False |
| False | True | False | True | True |
| False | False | False | False | True |

Q4. What are the values of the following expressions?

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

not (5 > 4)

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

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

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

(not False) or (not True)

Values of the given 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

Q5. 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: <=

Q6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.

The difference between the equal to (==) and assignment (=) operators:

* Equal to (==) is a comparison operator that checks if two values are equal.
* Assignment (=) is used to assign a value to a variable.

Example:

x = 5

if x == 5:

print("x is equal to 5")

Q7. 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')

* Block 1: spam = 0
* Block 2:
* python
* if spam == 10:
* print('eggs')
* Block 3:
* python
* if spam > 5:
* print('bacon')
* else:
* print('ham')
* Block 4 and 5: These are standalone print statements.

Q8. 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 = 2

if spam == 1:

print('Hello')

elif spam == 2:

print('Howdy')

else:

print('Greetings!')

Q9.If your programme is stuck in an endless loop, what keys you’ll press?

If your program is stuck in an endless loop, you can typically press **Ctrl + C** (or **Command + C** on Mac) in the terminal or command prompt to interrupt and stop the execution of the program.

Q10. How can you tell the difference between break and continue?

The difference between break and continue:

* break is used to exit out of the current loop entirely.
* continue is used to skip the rest of the current iteration and move to the next iteration of the loop.

Q11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

In a for loop:

* range(10) generates numbers from 0 to 9.
* range(0, 10) is the same as range(10) and generates numbers from 0 to 9.
* range(0, 10, 1) is also the same and generates numbers from 0 to 9 with a step size of 1.

Q12. 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.

Printing numbers 1 to 10 using for and while loops: Using for loop:

python

for i in range(1, 11):

print(i)

Using while loop:

python

i = 1

while i <= 10:

print(i)

i += 1

Q13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?

Calling a function named bacon() inside a module named spam after importing it:

python

import spam

spam.bacon()

This assumes that the bacon() function is defined within the spam module.