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

- The two values are True and False. They are written as True and False (case-sensitive).

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

- The three Boolean operators are: and, or, and not.

3. Make a list of each Boolean operator's truth tables.

- AND (and):

- True and True → True

- True and False → False

- False and True → False

- False and False → False

- OR (or):

- True or True → True

- True or False → True

- False or True → True

- False or False → False

- NOT (not):

- 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?

- = is the assignment operator (used to assign values to variables).

- == is the equality comparison operator (used to compare if two values are equal).

Example:

x = 5 # Assigns 5 to x

if x == 5: # Checks if x is equal to 5

print("x is 5")

7. Identify the three blocks in this code:

spam = 0

if spam == 10: # Block 1

print('eggs')

if spam > 5: # Block 2

print('bacon')

else: # Block 3

print('ham')

print('spam')

print('spam')

8. Write code that prints "Hello" if 1 is stored in spam, "Howdy" if 2 is stored in spam, and "Greetings!" otherwise.

if spam == 1:

print("Hello")

elif spam == 2:

print("Howdy")

else:

print("Greetings!")

9. If your program is stuck in an endless loop, what keys would you press?

- Press Ctrl + C to interrupt the program.

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

- break: Exits the loop entirely.

- continue: Skips the current iteration and moves to the next one.

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

- All three produce the same sequence: [0, 1, 2, ..., 9].

- range(10) assumes start=0 and step=1.

- range(0, 10) explicitly sets start=0 and end=10.

- range(0, 10, 1) explicitly sets start=0, end=10, and step=1.

12. Write a short program that prints numbers 1 to 10 using a for loop and a while loop.

# 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?

import spam

spam.bacon()

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