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

Answer=

The Python Boolean type has only two possible values:

1. True = 1

2. False = 0

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

Answer=

Boolean operators are the words "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).

Answer=

Logical AND

|  |  |  |
| --- | --- | --- |
| Operator A | Operator B | Logical result |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

Logical OR

|  |  |  |
| --- | --- | --- |
| Operator A | Operator B | Logical result |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

Logical NOT

|  |  |
| --- | --- |
| Operator A | Logical result |
| True | False |
| False | True |

4. 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)

Answer=

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

not (5 > 4) = not True = False

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

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

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

(not False) or (not True) = True or False = True

5. What are the six comparison operators?

Answer=

|  |  |
| --- | --- |
| **Operator Name** | **Operator symbol** |
| less than | < |
| greater than | > |
| less than or equal to | <= |
| greater than or equal to | >= |
| Equal to | == |
| 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.

Answer=

The equal to operator (==) is used to compare two values and determine if they are equal. It is used in a condition to check if a variable or expression has a certain value. For example, you might use it in an if statement to check if a variable is equal to a specific value before taking a certain action.

The assignment operator (=) is used to assign a value to a variable. It is used to give a variable a specific value, and it doesn't evaluate any condition. For example, you might use it to assign a value to a variable that you will use later in a calculation or to store the result of a calculation.

In short, you would use the equal to operator to check if a variable or an expression has a certain value, while you would use the assignment operator to give a variable a specific value.

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')

Answer=

1. The first block is the assignment of the variable spam to the value 0.
2. The second block is the ‘if’ statement that checks if the value of spam is equal to 10 and the print(‘eggs’) statement that is executed if the condition is true.
3. The third block is the ‘if’ statement that checks if the value of spam is greater than 5, the print(‘bacon’) statement that is executed if the condition is true, and the ‘else’ statement with the print(‘ham’) statement that is executed if the condition is false.

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.

Answer=

spam = 1

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?

Answer=

by pressing the "CTRL" + "C" keys together

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

Answer=

‘break’ is used to exit a loop completely. When the break statement is encountered inside a loop, the loop is terminated and the program control resumes at the next statement following the loop. It is used to exit a loop when a certain condition is met, regardless of how many iterations are left in the loop.

‘Continue’ is used to skip an iteration of a loop. When the continue statement is encountered inside a loop, the current iteration is skipped and the program control resumes at the next iteration. It is used to skip a specific iteration of a loop when a certain condition is met, but the loop continues to execute its remaining iterations.

In short, the break statement is used to exit a loop when a certain condition is met, while the continue statement is used to skip a specific iteration of a loop when a certain condition is met.

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

Answer=

In range (10) and range (0, 10) will generate the same sequence of numbers, but range (0, 10, 1) is more verbose and it's explicit that the step value is 1, which is the default value.

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.

Answer=

1st program (for loop)

for i in range(1,11):

print(i)

output: -

1

2

3

4

5

6

7

8

9

10

2nd program (while loop)

i = 1

while i <= 10:

print(i)

i += 1

output: -

1

2

3

4

5

6

7

8

9

10

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

Answer=

from spam import bacon

bacon()