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

Ans. A Boolean value that is true indicates that the object has been completed correctly, while a false Boolean value means it was not done correctly.

For Example, 5<=9 is True & 4>5 is False

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

Ans. The three basic 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 evaluate).

Ans.

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | **B** | **A AND B** | **Evaluation** |
| True | True | True | Both conditions are True then it’ll equate to True |
| False | True | False | First condition is False and the second one is True then it’ll equate to False |
| True | False | False | First condition is True and the second one is False then it’ll equate to False |
| False | False | False | First condition is False and the second one is False then it’ll equate to False |

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | **B** | **A OR B** | **Evaluation** |
| True | True | True | Both conditions are True then it’ll equate to True |
| False | True | True | First condition is False and the second one is True then it’ll equate to True |
| True | False | True | First condition is True and the second one is False then it’ll equate to True |
| False | False | False | First condition is False and the second one is False then it’ll equate to False |

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Operator** | **Called as** | **Used as** |
| 1 | == | Equal | x == y |
| 2 | != | Not equal | x != y |
| 3 | > | Greater than | x > y |
| 4 | < | Less than | x < y |
| 5 | >= | Greater than or equal to | x >= y |
| 6 | <= | Less than or equal to | x <= y |

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

Ans. The assignment operator is = and the comparison operator is ==. The = operator assigns a value to a variable, while the == operator compares two values and returns true if they are equal. The = operator cannot be used to compare two values that are not constant, while the == operator can both compare operands if they are constants.

For example,

a = 1

if a == 0 then print "A is Zero!" else print "A is not Zero!"

Output 🡪

"A is not Zero!"

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')

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.

Code:

spam = 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. Infinite loop can be stopped with **CTRL + C.**

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

Ans. The break and continue keywords are used to control the flow of a program. The difference between these two is that break stops the iteration of a loop while continue continues it. These keywords can be helpful in advancing through a script or program without having to repeatedly go back and forth.

* The break statement terminates the current iteration of a loop, while the continue statement skips to the next iteration.
* The break statement terminates the current iteration of the loop early, whereas the continue statement brings in the next iteration early.
* The "break" statement acts as a termination point for the "switch" loop, while the "continue 2" statement behaves similarly to a terminating condition in that it skips over the current iteration of the loop.

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

Ans. In a for loop there’s no differences between range(10), range(0, 10), and range(0, 10, 1)

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 Loop:

for i in range(1,11):

print(i)

While Loop:

a= 1

b=10

while a<=b:

print(a)

a=a+1

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

Ans. This function can be called with spam.bacon()