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

Ans🡪 ‘True’ and ‘False’

In Python, you write the Boolean values as True and False (without quotes), with the first letter capitalized.

Ex. is\_true = True, is\_false = False

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

Ans🡪 Logical AND (and) , Logical OR (or) and Logical NOT (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🡪

Logical AND (`and`):

|  |  |  |
| --- | --- | --- |
| Operand 1 | Operand 2 | Result |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

Logical OR (`or`):

|  |  |  |
| --- | --- | --- |
| Operand 1 | Operand 2 | Result |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

Logical NOT (`not`):

|  |  |
| --- | --- |
| Operand | Result |
| True | False |
| 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?

Ans🡪 ‘==’ , ‘!=’ , ‘ >’ , ‘<’ , ‘>=’ , ‘<=’

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

Ans🡪When comparing two values to check for equality, use the equal to operator (==).

When assigning a value to a variable, use the assignment operator (=).

Ex- Equal to :

x = 5

y = 7

if x == y:

print("x and y are equal")

else:

print("x and y are not equal")

Assignment:

x = 5

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:

if spam == 10:

print('eggs')

Block 2:

if spam > 5:

print('bacon')

else:

print('ham')

Block 3:

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.

Ans🡪

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🡪 Ctrl + C

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

Ans🡪The break statement is used to terminate the execution of the innermost loop (such as for or while) and exit the loop entirely. The continue statement is used to skip the remaining code inside the loop for the current iteration and move to the next iteration.

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

Ans🡪 All three forms of range() in the given context will produce the same sequence of numbers: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The difference lies in how the values are specified in the function call, with the default values being used when not explicitly specified.

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🡪Code 1:

for num in range(1, 11):

print(num)

Code 2:

num = 1

while num <= 10:

print(num)

num += 1

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

Ans🡪

import spam

spam.bacon()