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

🡪 The two values of Boolean data type are True and False. They are written with the first letter in capital case.

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

🡪 The three types Boolean operators are “and”, “or” and “not” operators.

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).

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|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NOT truth table | |  | OR truth table | | |  | AND truth table | | |
| A | not A |  | A | B | X = A or B |  | A | B | X = A and B |
| True | False |  | False | False | False |  | False | False | False |
| False | True |  | False | True | True |  | False | True | False |
|  |  |  | True | False | True |  | True | False | False |
|  |  |  | True | True | True |  | True | True | 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?

🡪 The six comparison operators are ==, >, <, !=, >= and <=.

6. 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 ‘==’ and ‘=’ is that the former is equality comparison operator whereas the later is assignment operator.

A condition where ‘==’ is used, is to check whether two quantities are equal or not.

A condition where ‘=’ is used, is to assign a certain value to a variable.

E.g.:

x=3 #Assignment operator is used

y=4 #Assignment operator is used

print(x == y) #Equality comparison operator is used

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') #Block 1

if spam > 5:

print('bacon') #Block 2

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.

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spam = int(input(“Input spam: ”))

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?

🡪 If our program is stuck in an endless loop, we will press CTRL+C.

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

🡪 The ‘break’ will terminate the running loop where as the ‘continue’ will do the opposite of break, instead of breaking the loop, continue forces the next iteration of the loop.

11. 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), range(0, 10), and range(0, 10, 1) all iterate for 10 times i.e. they all mean the same thing.

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.

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For loop:

for i in range(10):

print(i+1)

While loop:

i = 0

while (i < 10):

print(i+1)

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

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import spam

spam.bacon()