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

Ans. TRUE and FALSE are two values of Boolean data type. We have to use capital T and F and with the rest of the word in lowercase. The type() of both False and True is bool. The type bool is built in, meaning it’s always available in Python and doesn’t need to be imported. However, the name itself isn’t a keyword in the language.

a**=True**

b**=False**

print(a,type(a))

print(b,type(b))

OUTPUT:

True <class 'bool'>

False <class 'bool'>

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

Ans. Boolean operators form the basis of mathematical sets and database logic. They connect our search words together to either narrow or broaden our set of results.The three differnt types of Boolean operators in python are: are, and, not Example: a>40 and b>40

a**=**1000

b**=**2000

print(a**>**500 **and** b**>**1000) *# Example of boolean and*

print(a**>**200 **or** b**>**1000) *# Example of boolean or*

print(**not**(a**>**11)) *# Example of boolean not*

OUTPUT:

True

True

False

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. Truth Table

|  |  |  |  |
| --- | --- | --- | --- |
| x | operators | y | Result |
| True | == | True | True |
| True | == | False | False |
| False | == | True | False |
| False | == | False | True |
| True | and | True | True |
| True | and | False | False |
| False | and | True | False |
| False | and | False | False |
| True | or | True | True |
| True | or | False | True |
| False | or | True | True |
| False | or | False | False |
| 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)) -> True

(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. Assignment operator (it is a single ‘=’) is used to assigned the value in a variable while equal to operators (it is double ‘=’ -> ==) is used to compare the values.

Example:

X=5

Y=6

X==Y -> False

7. Identify the three blocks in this code:

spam = 0

***block 1*** if spam == 10:

***block 1*** print('eggs')

***block 1 block 2*** if spam > 5:

***block 1 block 2*** print('bacon')

***block 1 block 3*** else:

***block 1 block 3*** print('ham')

***block 1*** 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.

If spam == 1:

Print(“Hello”)

elif spam == 2:

Print(“Howdy”)

else:

Print(“Greeings!”)

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. Break end the programs at same place where it is written and came out of that loop. Continue skips the current iteration and executes the very next iteration in the loop.

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

Ans. There is no difference it terms of their result. In range (10) we didn’t give starting range and step. By default, it takes 0 as start and 1 as step. In range (0,10) we gave start as 0, but in range (0, 10, 1) we mentioned all parameters.

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 i in range (11):

print (i)

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?

Ans. Spam.bacon()