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

The two value of the Boolean data type are True and False. These are used to represent the truth value of expressions. Eg,. 2 < 5 is True and 5 < 2 is False.

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

Comparison, Binary 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 ).

For AND,

|  |  |  |
| --- | --- | --- |
| A | B | Value |
| True | True | True |
| True | False | False |
| False | True | False |
| False | Flase | False |

For OR,

|  |  |  |
| --- | --- | --- |
| A | B | Value |
| True | True | True |
| True | False | True |
| False | True | True |
| False | Flase | False |

For Not,

|  |  |
| --- | --- |
| A | Value |
| 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?

!=, ==, <,>,<=,>=

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

* “=” is an assignment operator which is used assign the value (on right of ‘=’) to the variable (on the left of ‘=’). For eg., a=10, b= ‘abi’.

This says that value of a is 10 and the value of b is ‘abi’

* “==” is a comparison operator which is just used to find the relation between the two operands on left and right. For eg., 3 == 5, 17 ==17.

This compares 3 to 5, if both are equal it results ‘True’, if not ‘False’. Here for the 1st case it is False, and for the 2nd it is True

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')

|  |  |
| --- | --- |
| Block1 | if spam == 10:  print('eggs') |
| Block2 | if spam > 5:  print('bacon') |
| Block3 | 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.

If spam == 1:

Print(“Hello”)

Else If spam == 2:

Print(“Howdy”)

Else:

Print(“Greetings”)

9.If your programme is stuck in an endless loop, what keys you’ll press?

Ctrl + C

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

|  |  |
| --- | --- |
| **Break** | **Continue** |
| Skips the remaining execution of the loop | Skips the current execution of the loop |
| Termination of the loop is early | Execution of the next loop is early |
| Stops the continuation of the loop | Do not stops the continuation of the loop |

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

* Range(10) 🡪 range (stop) takes 1 argument to produce a list of consequent whole numbers startin from 0 untill the stop (10) but, does not include stop(10) in the list of result.
* Range (0,10) 🡪 range(start,stop) takes 2 arguments to produce a list of consequent whole numbers starting from start(0) until the stop(10), and does not inclue stop(10).
* Range(1,10,1) 🡪 range(start,stop,skip) takes 3 arguments to produce a list of consequent whole numbers starting from start(0) until the stop(10), and does not inclue stop(10) by jumping the number of skip(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.

**Using for loop,**

for i in range (10):

print(1+i)

**Using while loop,**

i=0

while i<10:

i=i+1

print(i)

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

spam.bacon()