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

**Answer:**

Two values are: True and False

It is used to represent the truth values of the expressions. For example, 1== 0 is True whereas 2<1 is False.

The output <class ‘bool’> indicates the variable is a Boolean data type.

Example:  
a = True

type(b)  
  
Output:

<class 'bool'>

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

**Answer:**

The three types of 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 ).

**Answer:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **condition 1 (X)** | **condition 2 (Y)** | **NOT X** | **X AND Y** | **X OR Y** |
| false | false | true | false | false |
| false | true | true | false | true |
| true | false | false | false | true |
| true | true | false | true | true |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

**Answer:**

(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?

**Answer:**

Six comparison operators are as follows:

* Less than ( < )
* Less than or equal to ( <= )
* Greater than ( > )
* Greater than or equal to ( >= )
* Equal to ( == )
* Not equal to ( != )

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

**Answer:**

The “=” is an assignment operator which is used to assign the value to the variable.

Example:

a = 10

ch = 'y'

The '==' operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

Example:

5==5

This will return 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')

**Answer:**

1.

spam = 0

2.

if spam == 10:

print('eggs')

3.

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.

**Answer:**

spam = int(input("enter a number"))

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?

**Answer:**

CTRL + C

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

**Answer:**

The **break** statement stops the loop in which the statement is placed. A **continue** statement skips a single iteration in a loop.

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

**Answer:**

There is no difference as by default starting value is 0 and increment value is 1, if not specified.  
  
Thus, in all three cases, loop will return a sequence of numbers, starting from 0, and increments by 1, and ends at 9

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.

**Answer:**

#Using for Loop

for i in range(10):

print(i+1)

#Using while loop

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?

**Answer:**

spam.bacon()