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

**Answer**

The two values of Boolean data types are True and False.

We can write them as a=True or a=False.

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

**Answer**

The 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**

1. x and y

|  |  |  |  |
| --- | --- | --- | --- |
| x | and | y | Result |
| True | and | True | True |
| True | and | False | False |
| False | and | True | False |
| False | and | False | False |

1. x==y

|  |  |  |  |
| --- | --- | --- | --- |
| x | == | y | Result |
| True | == | True | True |
| True | == | False | False |
| False | == | True | False |
| False | == | False | True |

1. x or y

|  |  |  |  |
| --- | --- | --- | --- |
| x | or | y | Result |
| True | or | True | True |
| True | or | False | True |
| False | or | True | True |
| False | or | False | False |

1. not x

|  |  |  |
| --- | --- | --- |
| not | X | Result |
| not | True | False |
| Not | False | 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**

|  |  |  |
| --- | --- | --- |
| **Operator** | **Name** | **Example** |
| == | Equal | x == y |
| != | Not equal | x != y |
| > | Greater than | x > y |
| < | Less than | x < y |
| >= | Greater than or equal to | x >= y |
| <= | Less than or equal to | x <= y |

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

**Answer**

Equal to (==) operator checks if the given operands are equal to or not. If it is equal the it returns with true if not it returns with false.

Assignment (=) operator assigns a value to the variable on the left side of the operator. It does not return with a result, it simply assigns the variable with a mentioned value.

So, if I want to check if the value of variable **a** is equal to the integer **54.**Then first I would use the assignment operator to assign the variable a with an input operator and then to check if the input entered matches with 54 I would use == operator

a=input( )

if a == 54:  
 print(“matching”)  
else:  
 print(“not matching”)

**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**

spam = 0

**#block 1**  
if spam == 10:  
 print('eggs')

**#block 2**  
if spam > 5:  
 print('bacon')

**#block 3**  
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 = input("enter any integer ")

for i in spam :

if i=='1' :

print("hello")

if i == '2' :

print('Howdy')

else :

print("Greetings!")

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

**Answer**

Ctrl + C or Ctrl + Z

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

**Answer**

A break statement terminates the execution of the current loop and does not move forward to the next iteration where as a continue moves forward to the next iteration of the current loop.

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

**Answer**

Though the output of all three of the range function example given in the question is the same, The differences are in the parameters of the range function –

range(10) – range(stop)  
range(0,10) – range(start ,stop)  
range(0,10,1) – range(start ,stop ,step)

**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(1,11):  
 print(i, end="")

**#using while loop**

a = 1  
while a<=10:  
 print(a,end="")  
 a = a + 1

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

**Answer**

Import spam  
spam.bacon( )