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

**Ans:** True and False.

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

**Ans:** The three different types of Boolean operators are and, or, 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 ).

**Ans:** Truth table for and:

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **T** |
| False | False | False |
| False | True | False |
| True | False | False |
| True | True | True |

Truth table for or:

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **T** |
| False | False | False |
| False | True | True |
| True | False | True |
| True | True | True |

Truth table for not:

|  |  |
| --- | --- |
| **X** | **T** |
| False | True |
| True | False |

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?

**Ans:** Python less than (<), python greater than (>), Less Than or Equal To (<=), Equal to or greater than (>=), Python Equal To (==) and Python Not Equal Operator (!=)

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

**Ans:** An assignment operator is responsible for assigning a value to a variable. For instance a=3, b=’foo’, c=True, etc.

Equal to operator on the other hand is a Boolean operator which returns a bool type of data. For instance,

print(7==8)

> False

Use double equal to sign for a Boolean equal to operator and single equal to to assign values.

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')

**Ans:**

‘ham’

‘spam’

‘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.

**Ans:**



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:** In a for loop, using a break will terminate the loop. On the other hand, using a continue statement will terminate just the current iteration.

Eg of continue:

c=0

for i in range(20):

  if i%2==0:

    continue

    c=c+1

  else:

    print("Not a prime")

print(c)

here, the output of c will be equal to zero because whenever i is an even number, the continue will skip to the next iteration without updating the value of c.

Eg of break:

for i in range(20):

  if i%2==0:

    break

    c=c+1

  else:

    print("Not a prime")

Here we don’t get any output because the very first number (0) is divisible by 2 and will terminate the loop even without performing anymore iterations.

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

**Ans:** range(10): returns numbers between 0 (default) to 9

range(0,10): returns numbers from 0 to 9. Here, we can set the initial starting point arbitrarily.

range(0,10,1): return numbers from 0 to 9 with a step size of 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.

**Ans:** Using for loop:

for i in range(0, 11, 1):

  print(i)

Using while loop:

i=0

while i<11:

  print(i)

  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()