

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

True and False.

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

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 evaluates).

AND Truth Table,

X	Y	Returns
True	False	False
False	True	False
False	False	False
True	True	True

OR Truth Table,

X	Y	Returns
True	False	True
False	True	True
False	False	False
True	True	True

NOT Truth Table,

X	Returns

not True	False
not False	True

4. What are the values of the following expressions?

$(5 > 4)$ and $(3 == 5)$: - **False**.

$\text{not } (5 > 4)$: - **False**.

$(5 > 4)$ or $(3 == 5)$: - **True**.

$\text{not } ((5 > 4) \text{ or } (3 == 5))$: - **False**.

$(\text{True and True}) \text{ and } (\text{True == False})$: - **False**.

$(\text{not False}) \text{ or } (\text{not True})$: - **True**.

5. What are the six comparison operators?

>, **\geq** , **<**, **\leq** , **$=$** , **$\%$**

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

Assignment operators are used to assign a particular value to a variable. E.g.: - $x = 2$

Equal to operator compares/checks a value with another value.

E.g.: - if $x == 2$:

```
print("Correct!")
```

```
else:
```

```
print("Wrong!")
```

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  
  
if spam == 10:  
    print('eggs')  
  
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.

```
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?

CTRL + C

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

break statement will terminate execution of current loop. continue statement will skip current iteration of a loop and executes the very next.

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

For all the above-mentioned range functions, the for loop will be executed 10 times i.e., from 0 to 9.

E.g.: -

for i in range(10):

```
print("Hello!")
```

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.

FOR LOOP	WHILE LOOP
<pre>for n in range(1, 11): print(n)</pre>	<pre>n = 0 while n < 10: n += 1 print(n)</pre>

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

```
from spam import bacon
```