

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

Ans – The two values of Boolean variable are as following

True, False (The first letter must be a capital)

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

Ans – and, or, not are the three different types of Boolean operators.

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).

Ans –

0—‘False’, 1—‘True’

‘and’ operator:

0	0	0
0	1	0
1	0	0
1	1	1

‘or’ operator:

0	0	0
0	1	1
1	0	1
1	1	1

‘not’ operator:

0	1
0	0

4. What are the values of the following expressions?

$(5 > 4) \text{ and } (3 == 5) \rightarrow \text{False}$

$\text{not } (5 > 4) \rightarrow \text{False}$

$(5 > 4) \text{ or } (3 == 5) \rightarrow \text{True}$

$\text{not } ((5 > 4) \text{ or } (3 == 5)) \rightarrow \text{False}$

$(\text{True and True}) \text{ and } (\text{True == False}) \rightarrow \text{False}$

$(\text{not False}) \text{ or } (\text{not True}) \rightarrow \text{True}$

5. What are the six comparison operators?

Ans $\rightarrow ==$ (Equality Operator)

$!=$ (Not Equality Operator)

$<$ (Less than operator),

```
<= (Less than or equal to operator)  
> (Greater than operator)  
=> (Greater than or equal to 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 → Assignment operator is denoted by “=” and Equal to operator is denoted by “==”

e.g—When we wish to assign a value to a variable in that case we use assignment operator like for example a = 10, b = 20 etc.

While comparing two values we use Equal to operator. Like for example in conditional statements we use this operator – if a = 10:

```
print('This is a correct statement')  
elif b = 20:  
    print('This is also a correct statement')
```

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')
```

→ Output will be >>> 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→

```
spam = int(input('Enter your value:'))  
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?

Ans → Ctrl + C

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

Ans → 'break' statement terminates a entire 'for' or 'while' loop but continue statement skips the steps pf current iteration and start the next iteration.

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

Ans → range(10) >>> gives a range between 0 to 9. i.e., beginning to (end-1) with a default step size of 1.
range(0,10) >>> gives a range between 0 to 9 with default step size of 1.
range(0,10,1)>>> gives a range between 0 to 9 with 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(1,11):
    print(i)
# using while Loop
i = 1
while i < 11:
    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?

Ans → spam.bacon()