

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

Ans.) True and False, using capital T and F, with the rest of the word in lowercase

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

Ans.) 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 evaluates).

Ans.) AND -

Input A		Input B		Output Q
0	0	0	0	
0	1	0	0	
1	0	0	0	
1	1	1	1	

OR-

Input A		Input B		Output Q
0	0	0	0	
0	1	1	1	
1	0	1	1	
1	1	1	1	

NOT-

Input A		Output Q
0	1	
1	0	

4. What are the values of the following expressions?

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

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

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

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

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

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

5. What are the six comparison operators?

Ans.) Python has six comparison operators, which 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.

Ans.) equal to operator → ==

Assignment operator → =

eg. → x=10 (assignment operator)

if x==10: print('True')

Output → 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')
```

Ans.)

Block1 → spam = 0

if spam == 10:

print('eggs') → Block 1

if spam > 5:

print('bacon') → Block 2

else:

print('ham')

print('spam')

print('spam')

Block 3



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.)

```
if spam==1:
```

```
    print('Hello')
```

```
elif spam==2:
```

```
    print('Howdy')
```

```
else:
```

```
    print('Greetings!')
```

9.What keys will you press if your program is stuck in an endless loop?

Ans.) Ctrl+c

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

Ans.) The break statement terminates the loop containing it. Control of the program flows to the statement immediately after the body of the loop.

whereas

The continue statement is used to skip the rest of the code inside a loop for the current iteration only. Loop does not terminate but continues on with the next iteration.

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

Ans.) There is no difference , all of them will give the same result

In range(10) → 10 is the stop argument

In range(0,10) → here 10 is the stop argument and 0 is the start argument

In range(0,10,1) → here 0 is the start argument , 10 is the stop argument and 1 is the step

12. Write a short program that prints the numbers 1 to 10 using a a loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.

Ans.) for i in range(1,10):

print (i)

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()