

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

The two values of Boolean data type are True and False. They are written as:

- True
- False

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

AND, OR, NOT are the three 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).

X	Y	NOT X	AND	OR
false	false	true	false	false
false	true	true	false	true
true	false	false	false	true
true	true	false	true	true

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)

(not False) or (not True) False

5. What are the six comparison operators?

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.

Equal to is represented with two = symbols i.e., == where as assignment operator is represented with one = symbol. Equal to is used in conditions and assignment operator is used for assigning values to variables.

Ex:- a = 10, = is the assignment operator.

If a == 10, here == is the equal to.

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')
```

the three blocks of code are:

- 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.

```
spam = int(input('Input: '))
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?  
On command line we press Control+c to get out of the infinite loop.

10. How can you tell the difference between break and continue?  
Break ends the loop when the condition is satisfied and continue allows to execute the next step in the loop after the condition is satisfied.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?  
There is no difference between those three statements. They all give the same output.

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 i in range(10):
    print(i+1)
```

```
i = 1
while i <= 10:
    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?

```
spam.bacon()
```