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

**Answer:** The Python Boolean type has only two possible values:

1. True
2. False

Ex: var = True or var = False

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

**Answer:** In programming, comparison operators are used to compare values and evaluate down to a single Boolean value of either True or False.

1. And
2. Or
3. 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 ).**

**Answer:**

1. “And” Truth Table:

|  |  |  |
| --- | --- | --- |
| A | B | Q |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

1. “Or” Truth Table:

|  |  |  |
| --- | --- | --- |
| A | B | Q |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

1. “Not” table:

|  |  |
| --- | --- |
| A | Q |
| 0 | 1 |
| 1 | 0 |

**4. What are the values of the following expressions?**

**Answers:**

(5 > 4) and (3 == 5) -> False

not (5 > 4) -> False

(5 > 4) or (3 == 5) -> True or False

not ((5 > 4) or (3 == 5)) -> False or True

(True and True) and (True == False) -> False

(not False) or (not True) -> True or False

**5. What are the six comparison operators?**

**Answers:** Python has six comparison operators, which are as follows:

1. equal to (==)
2. not equal to (!=)
3. greater than (>)
4. less than (<)
5. greater than equal to (>=)
6. less than 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.**

**Answer:**

Assignment operator (=) is used to assign or store a value into a variable, equal to operator (==) used to conditional statement means to compare value between two variables.

Ex: var a = 10 (10 will be stored in a variable)

a = 10, b=20

a==b (checking whether a value is equal to b value)

**7. Identify the three blocks in this code:**

**Answer:**

spam = 0

if spam == 10: #block 1: checking spam value with 10 with assignment operator

print('eggs')

if spam > 5: # block 2: comparison operators being used to compare spam with 5

print('bacon')

else: # block 3: if no conditions satisfied python will execute else code

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.**

**Answer:**

If spam==1:

print(“Hello”)

elif spam==2:

print(“Howdy”)

else:

print(“Greeting!”)

**9. If your programme is stuck in an endless loop, what keys you’ll press?**

**Answer:** ctrl + c used to break out from endless loop.

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

**Answer:**

**break:** used to terminate the current loop and jumps into other part of execution.

**continue:** used to skip the current execution and jumps to next execution, It won’t terminate any loop.

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

**Answer:**

In my view there is no difference between the ranges mentioned above, all ranges perform same set of operations only.

**range(10)** -> start range 0 , end range 9 (10-1) , jump value = 1 (default)

By default values will be considered in the above function.

**range(0,10)** -> start range 0, end range 9 (10-1), jump value = 1 (jump is default)

Overriding start range with 0.

**range(0,10,1)** – start range 0, end range 9 (10-1), jump value = 1

Overriding start range and jump value

**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.**

**Answer:**

**For loop:** **While loop:**

for i in range(1,11): i=1

Print(i) 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?**

**Answer:**

import spam or import spam as s # you can use alias

spam.bacon() or s.bacon()