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

The two values of Boolean data types are:

* True: returns when the values meets the condition
* False: returns when the values meets the condition

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

The three types of boolean operators are:

* AND: returns true if all the condition is true
* OR: returns true if either of the conditions are true
* NOT: returns the first value not the second

**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 ).**

| **X** | **Y** | **X AND Y** |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

| **X** | **Y** | **X OR Y** |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

| **X** | **NOT** |
| --- | --- |
| 0 | 1 |
| 1 | 0 |

**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) :** False
* **(not False) or (not True) :** True

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

| **OPERATOR** | **NAME** | **EXAMPLE** |
| --- | --- | --- |
| > | Greater than | X > Y |
| < | Less than | X < Y |
| >= | Greater than equal to | X >= Y |
| <= | Less than equal to | X <= Y |
| == | Equal to equal to | X == Y |
| != | Not equal to | X != Y |

**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 the operator to assign the value to a variable. Ex: area\_of\_circle = 423

Assignment operators used to assign values with some conditions like increment/decrement if it is assigned. Some examples are:

| OPERATOR | EXAMPLE | OTHER WAY |
| --- | --- | --- |
| += | X += 1 | X = X + 1 |
| -= | X -= 1 | X = X - 1 |
| \*= | X \*= 1 | X = X \* 1 |
| /= | X /= 1 | X = X / 1 |
| //= | X //= 1 | X = X // 1 |

**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')

**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.**

def number(num):

if(num==1):

print("HELLO")

elif(num==2):

print("HOWDY")

else:

print("GREETINGS!")

number(3)

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

If the program is stuck in the loop, click Ctrl + C.

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

The BREAK statement will terminate the loop when it meets the condition. Whereas the continue statement will skip the loop when it meets the condition.

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

* range(10) : It will print the values from 0 to 9 i.e, (n-1)
* range(0, 10) : It will print the values from 0 to 9. But we have included the start value as 0 and the end value as 10.
* range(0, 10, 1) : It will print the values from 0 to 10. The start value is 0, end value is 10 and step value is 1. It will take one step from the start to end 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.**

**For loop:**

for i in range(0,10):

print(i, end=" ")

**While loop :**

i = 0

while i<10:

print(i,end=" ")

i += 1

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

It will be called by spam.bacon()