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

Ans: 0 or 1

We can write them as True or False

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

**Ans:** These operators are 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 evaluate ).**

|  |  |  |  |
| --- | --- | --- | --- |
| Symbol | Truth Table | | |
| boolean algebra AND gate truth table | A | B | Q |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |  |  |
| --- | --- | --- | --- |
| Symbol | Truth Table | | |
| boolean algebra OR gate truth table | A | B | Q |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |
| Boolean Expression Q = A+B | Read as A OR B gives Q | | |
| Symbol | Truth Table | | |
| NAND gate truth table | A | B | Q |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |
| Boolean Expression Q = A .B | Read as A AND B gives NOT-Q | | |

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)) : True

(True and True) and (True == False) : False

(not False) or (not True): False

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

Ans: != not equal to

>= Greater than or equal to

<= less than or equal to

>Greater than

<Smaller Than

== equals to

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.

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.

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

Ans: Break

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

Ans: The main difference between both the statements is that when break keyword comes, it terminates the execution of the current loop and passes the control over the next loop or main body, whereas when continue keyword is encountered, it **skip**s the current iteration and executes the very next iteration in the loop.

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

* **Ans:** What is the difference between range (10), range (0, 10), and range (0, 10, 1) in a for loop? They all do the same thing. The range (10) call ranges from 0 up to (but not including) 10, range (0, 10) explicitly tells the loop to start at 0, and range (0, 10, 1) explicitly tells the loop to increase the variable by 1 on each iteration.

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.

i = 1

while(i<=10):

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?

Import bacon from spam