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

**Answer:** True and False are two values of Boolean Data type.

X = True

X = False

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

**Answer:** and, or, not are 3 different 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).

**Answer:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | A and B | A or B | not A |
| True | True | True | True | False |
| True | False | False | True |  |
| False | True | False | True | True |
| False | False | False | False |  |

4. What are the values of the following expressions?

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

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

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

(not False) or (not True)

**Answer:** (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?

**Answer:**

|  |  |
| --- | --- |
| Operator | Meaning |
| == | Equal to |
| > | Greater than |
| < | Less than |
| != | Not equal to |
| <= | Less than or equal to |
| >= | Greater than or 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 assigns the value to variable from right to left while equal to operator compares the value and return True or False.

Let’s suppose we have variable x and we want to assign some value to this variable we will use assignment operator (=) and if we want to check 3 is equal to 4 then we will use equal to operator (==).

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')

**Answer:** there are 3 blocks 2 if blocks and 1 else block

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:**

spam = input(“Enter the value = “)

if spam != NAN:

Print(“Number is not valid”)

else:

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?

**Answer:** ctrl + C

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

**Answer:** Break is used to exit the loop and execute the next statement out of loop.

Continue is used to skip code within loop for certain iterations of loop. Loop continues where it left off.

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

**Answer:**

Range (10): Count 10 numbers starting from 0

Range (0,10): Count from 0 till 10 but not including 10

Range(0,10,1): Count from 0 till 10 adding step of 1 at a time but not including 10.

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 i in range(1,11):

print(i)

i =1

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:** spam.bacon()