1. What are the Boolean data type's two values? How do you go about writing them?

**Solution1**: Two values are: True and False. True==1 and False==0.

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

**Solution2**: The AND operator (“and”)

The OR operator (“or”)

The NOT operator (“not)

1. 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 ).

|  |  |
| --- | --- |
| A | not A |
| True | False |
| False | True |

**Solution3**: The not Boolean Operator Truth table:

The and Boolean Operator

|  |  |  |
| --- | --- | --- |
| A | B | A and B |
| True | True | True |
| False | True | False |
| True | False | False |
| False | False | False |

The or Boolean Operator

|  |  |  |
| --- | --- | --- |
| A | B | A or B |
| True | True | True |
| False | True | True |
| True | False | True |
| False | False | False |

4. What are the values of the following expressions?

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

**Solution4**: False

not (5 > 4)

solution: False

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

Solution: True

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

Solution: False

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

Solution: False

(not False) or (not True)

Solution: True

5.What are the six different types of reference operators?

**Solution5**: 1)Aritmetic operators

2)Assignment operators

3)Comparison operators

4)Logical operators

5)Identity operator

6)Membership operators

7)Bitwise operators

6.How do you tell the difference between the equal to and assignment operators?

**Solution6**: The “=” is a assignment operator is used to assign the value on the right to the variable on the left.(ex. a=10)

The ‘==’ operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

7.Describe a condition and when you would use one.

**Solution7**: Python supports the logical conditions from mathematics.

Equals:a==b

Not Equals:a!=b

Less than:a<b

Less than or equal to:a<=b

Greater than:a>b

Greater than or Equal to :a>=b

These conditions are used in “if statements” and loops.

8. Recognize the following three blocks in this code:

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

**Solution8**: output:spam

9. Create a programme that prints. If 1 is stored in spam, prints Hello; if 2 is stored in spam, prints Howdy; and if 3 is stored in spam, prints Salutations! if there's something else in spam.

**Solution9**: spam=int(input("enter the number:"))

if spam==1:

print("Hello")

elif spam==2:

print("Howdy")

elif spam==3:

print("Salutations!")

else:

print("please try again")

10.If your programme is stuck in an endless loop, what keys can you press?

**Solution10**: CTRL + C

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

**Solution11**:Break statement exist in python to exit or “break” a for or while conditional loop.

The continue statement is used to skip code within a loop for certain iterations of the loop. After the code is skipped, the loop continues where it left off.

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

**Solution12**: In for loop range(10) range(0, 10) and range(0, 10, 1) all range functions will do same work to extract data from 0 to 9 except last value i.e. 10. Range(start, end, step size) meaning of all is same.

13. Using a for loop, write a short programme that prints the numbers 1 to 10 Then, using a while loop, create an identical programme that prints the numbers 1 to 10.

**Solution13**:#using for loop

for i in range(1,11):

print(i)

#using while loop

i=1

while i<11:

print(i)

i=i+1

14. If you had a bacon() function within a spam module, how would you call it after importing spam?

**Solution14**:This function can be called with spam.bacon().