**Assignment 8 Task**

Q1) What are the two values of the Boolean data type? How do you write them?

Ans:The two values of the Boolean data type are true and false. They are written as such: True and False.

Q2)What are the three Boolean operators?

Ans: Python has three Boolean operators which are and , or , and not.

Q3)Write out the truth tables of each Boolean operator (that is, every possible combination of Boolean values for the operator and what they evaluate to).

Ans:

the truth tables for each Boolean operator:

- AND operator:

```

A | B | A AND B

T | T | T

T | F | F

F | T | F

F | F | F

```

- OR operator:

```

A | B | A OR B

T | T | T

T | F | T

F | T | T

F | F | F

```

- NOT operator:

```

A | NOT A

T | F

F | T

```

Q4) What do the following expressions evaluate to?

(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)

Ans:

- (5 > 4) and (3 == 5) evaluates to False.

- not (5 > 4) evaluates to False.

- (5 > 4) or (3 == 5) evaluates to True.

- not ((5 > 4) or (3 == 5)) evaluates to False.

- (True and True) and (True == False) evaluates to False.

- (not False) or (not True) evaluates to True.

Q5) What are the six comparison operators?

Ans:

The six comparison operators are:

- Greater than (>)

- Less than (<)

- Greater than or equal to (>=)

- Less than or equal to (<=)

- Equal to (==)

- Not equal to (!=)

Q6) What is the difference between the equal to operator and the assignment operator?

Ans: The assignment operator is used to assign the values to the variable. Equality Operator: The equality operator is used to compare the values of both the variables and the result is true or false.

Q7) Explain what a condition is and where you would use one.

Ans:

A condition in programming is the state of something in the program that’s true or false. [For example, when looking at the condition of a computer variable, you can use a conditional statement to evaluate the condition of the variable](https://www.computerhope.com/jargon/c/condition.htm" \t "_blank)