Lab 1

#Boolean expressions are statements that are TRUE or FALSE.

#R returns Boolean expressions as TRUE or FALSE.

#To return Boolean results in R, you must use the AND, the OR, and the NOT operators.

#AND operator is &

#OR operator is | (shift+backslash)

#NOT operator is !

#Information found at https://towardsdatascience.com/the-complete-guide-to-logical-operators-in-r-9eacb5fd9abd

#AND

#AND takes two values and returns TRUE only if both are TRUE

#Example, TRUE & TRUE will return a TRUE result

#Example, TRUE & FALSE will return a FALSE result

#Example, FALSE & TRUE will return a FALSE result

#Example, FALSE & FALSE will return a FALSE result

#These lines show the Boolean AND function at work.

```
> 1 & 1
[1] TRUE
> 1 & 0
[1] FALSE
> 0 & 0
[1] FALSE
> 0 & 1
[1] FALSE
```

#OR

#OR takes two values and returns TRUE only if at least one is TRUE

#Example, TRUE | TRUE will return a TRUE result

#Example, TRUE | FALSE will return a TRUE result

#Example, FALSE | TRUE will return a TRUE result

#Example, FALSE | FALSE will return a FALSE result

#These lines show the Boolean OR function at work.

```
> 1 | 1
[1] TRUE
> 1 | 0
[1] TRUE
> 0 | 0
[1] FALSE
> 0 | 1
[1] TRUE
```

#NOT

#NOT is a negative, and will return FALSE if something is not true, and TRUE if something is not false

#Example, !TRUE == TRUE will return a FALSE result

#Example, !FALSE == TRUE will return a TRUE results

#These lines show the Boolean NOT function at work.

```
> !1 == 1
[1] FALSE
> !1 == 0
[1] TRUE
> !0 == 0
[1] FALSE
```

```
> !0 == 1
[1] TRUE
```