**Logical Operators – Day 1  
\*\*\*Save these programs in the appropriate folder\*\*\***

1. Complete the following “truth table” for the logical operator OR.

|  |  |  |
| --- | --- | --- |
| **a** | **b** | **a or b** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

1. Complete the following “truth table” for the logical operator AND.

|  |  |  |
| --- | --- | --- |
| **a** | **b** | **a and b** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | false |

1. Complete the following “truth table” for the logical operator NOT.

|  |  |
| --- | --- |
| **a** | **not a** |
| True | False |
| False | True |

4. Figure out exactly, line for line, what the output on the screen will be for each of the following programs. For each of these programs, x is 2 and y is 3.

x = 2

y = 3

Output:

x = 2 y = 3

sum = 5

a. if x < y and not(y == 10):

sum = x + y

print("x =", x, "y = ", y)

print("sum =", sum)

b. if x > y or x - y < 0:

Output:

x = 3 y = 4

x = x + 1

y = y + 1

print("x = ", x, " y = ", y)

Output: N/A

c. if x > y or x\*y < 0:

print("x = ", x, " y = ", y)

5. Write programs to accomplish each task.

* Print a message if the user enters an A, regardless of case.
  + Determine if a given integer is divisible by either 3 or 5.
  + Determine if a given integer is divisible by both 3 and 5.
  + Determine if a given integer is not a multiple of 4 or 7.
  + Determine if two given integers are both positive, both negative, or one positive and one negative.