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**Week 4 In-class Exercises**

Complete the worksheet then submit to Moodle.

1. Complete the following truth tables using the words True and False.

|  |  |  |
| --- | --- | --- |
| a | b | a and b |
| T | T | T |
| T | F | F |
| F | T | F |
| F | F | F |

|  |  |  |
| --- | --- | --- |
| a | b | a or b |
| T | T | T |
| T | F | T |
| F | T | T |
| F | F | F |

|  |  |
| --- | --- |
| a | Not a |
| T | F |
| F | T |

1. Fill in the table with the logical opposite of each operator.

|  |  |
| --- | --- |
| **Operator** | **Logical opposite** |
| == | != |
| != | == |
| < | > |
| <= | >= |
| > | < |
| >= | <= |

1. Give an example to make each of the following conditions true and false.

|  |  |  |
| --- | --- | --- |
| **Condition** | **True** | **False** |
| EXAMPLE: a < b | a = 2 and b = 6 | a = 4 and b = 1 |
| a > b | a = 2 and b = a\*3 | a = b and b = b - 1 |
| a >= b | a = 2 and b = a | a = 2 and b = 1 |
| a >= 15 and b == 4 | a = 15 and b = 4 | a = 15 and b = a |
| a <= -4 and b != 4 | a = -4 and b = 3 | a = 4 and b = a |
| a > 0 or b < 99 | a = 1 or b = 8 | a = 1 and b = 100 |
| a >= 3 or b >= 2 | a = 3 or b = 1 | a = 1 and b = a |

1. Write a program using Spyder that asks a day number and prints the day name (a string). Assume the days of the week are numbered 0,1,2,3,4,5,6 from Sunday to Saturday. Submit a .py file on Moodle.