**Boolean Values & Operators**

*See the lesson notes at*: [dmaccarthy.github.io/sci/#cs\_new/sp2/bool](https://dmaccarthy.github.io/sci/#cs_new/sp2/bool)

1. Evaluate each expression as **True** or **False**.

|  |  |
| --- | --- |
| **Expression** | **Answer** |
| True or False |  |
| not False or True |  |
| True and not False |  |
| False and not True |  |
| not (False and True) |  |
| not (False or True) |  |

2. Given **x = 12** and **y = 4**, evaluate each expression as **True** or **False**.

|  |  |
| --- | --- |
| **Expression** | **Answer** |
| not (y > 5) |  |
| x < 3 \* y |  |
| x > y or y > 5 |  |
| x > y and y > 5 |  |
| not (x > y) and y > 5 |  |
| not (x > y and y >5) |  |

3. Complete the truth table.

|  |  |  |  |
| --- | --- | --- | --- |
| **a** | **b** | **c** | **a or b and not c** |
| True | True | True | True |
| True | True | False |  |
| True | False | True |  |
| True | False | False |  |
| False | True | True |  |
| False | True | False |  |
| False | False | True |  |
| False | False | False |  |

4. Check your answers to questions 1, 2, and 3 by writing a program **s10\_bool.py** that evaluates and prints each expression. For example, the first expression in question 1 could be checked as follows:

**print(True or False)**