

[Course](#) > [Week 3...](#) > [3.18 Pr...](#) > Progra...

## Programming Assignment

Click the link below to download a zip drive of all the necessary material for the homework. Unzip the folder and then run Jupyter to work on files. First go through 3\_counting.ipynb, then complete sets\_HW.ipynb.

- **Verified Learners:** upload sets\_HW.ipynb for grading
- **Auditing Learners:** complete the assessment questions below

[Download Notebooks](#)

### union

1 point possible (graded)

Define  $A$  and  $B$  as follows:

$$A = \{-2, 0, 5, \text{bob}\}$$

$$B = \{-2, 0, 5, 10, \text{jill}\}$$

Which of the following is the correct output for `union(A,B)`

☐  $\{-2, -2, 0, 0, 5, 5, 10, \text{bob}, \text{jill}\}, 6$

☒  $\{-2, 0, 5, 10, \text{bob}, \text{jill}\}, 6$  ✓

☐  $\{10, \text{bob}, \text{jill}\}, 3$  ✓

You have used 0 of 2 attempts

Submit

**i** Answers are displayed within the problem

## inclusion\_exclusion

1 point possible (graded)

Again, let  $A$  and  $B$  be:

$$A = \{-2, 0, 5, \text{bob}\}$$

$$B = \{-2, 0, 5, 10, \text{jill}\}$$

Which of the following is the correct output for `inclusion_exclusion(A,B)`

☐ (5, 5, 2, 6)

☒ (4, 5, 3, 6) ✓

☐ (5, 4, 3, 6)

Submit

You have used 0 of 2 attempts

**i** Answers are displayed within the problem

## union3

1 point possible (graded)

Define  $A$ ,  $B$ , and  $C$  to be:

$$A = \{-2, 0, 5, \text{bob}\}$$

$$B = \{-2, 0, 5, 10, \text{jill}\}$$

$$C = \{-2, 0, 3, 5, 10\}$$

Which of the following is the correct output for `union3(A,B)`

☒  $\{-2, 0, 3, 5, 10, \text{bob}, \text{jill}\}, 7$  ✓

☐  $\{-2, 0, 3, 5, 10\}, 5$

☐  $\{-2, 0, 5, 10, \text{bob}, \text{jill}\}, 6$

Submit

You have used 0 of 2 attempts

**i** Answers are displayed within the problem

### inclusion\_exclusion3

1 point possible (graded)

Define  $A$ ,  $B$ , and  $C$  to be:

$$A = \{-2, 0, 5, \text{bob}\}$$

$$B = \{-2, 0, 5, 10, \text{jill}\}$$

$$C = \{-2, 0, 3, 5, 10\}$$

Which of the following is the correct output for `inclusion_exclusion(A,B)`

☐ 3, 5

☐ 3, 6

☒ 3, 7 ✓

Submit

You have used 0 of 2 attempts

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**i** Answers are displayed within the problem

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