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# Unit 15 - Week 6 Quiz

## Course outline

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## Week 6 Quiz

**Due date for this assignment:** 2018-09-20, 23:59 IST.

All questions carry equal weightage. All Python code is assumed to be executed using Python3.

- If the answer to a question is a string, make sure you enclose the value in quotes (either single or double quotes).
- If the answer to a question is a list, make sure you enclose the value in square brackets and separate the values using commas.

You may submit as many times as you like within the deadline. Your final submission will be graded.

1) Suppose  $u$  and  $v$  both have values of type set and  $u \cap v == u + v$ . From this we **2.5 points** can conclude that:

- ☐  $u$  and  $v$  are identical
- ☒  $u$  and  $v$  are disjoint
- ☐  $u$  is a subset of  $v$
- ☐  $v$  is a subset of  $u$

2) Suppose  $u$  and  $v$  both denote sets in Python. Under what condition can we **2.5 points** guarantee that  $u - (v - u) == u$ ?

- ☐ This is true for any  $u$  and  $v$ .
- ☐ The set  $u$  should be a subset of  $v$ .
- ☒ The set  $v$  should be a subset of  $u$ .
- ☐ The sets  $u$  and  $v$  should be disjoint.

3) We have a list of values `[17, 98, 89, 42, 67, 54, 89, 25, 38]`. Suppose we build a max-heap by starting with an empty heap and inserting each value from the list into the heap, from left to right. Write the resulting heap, as a list.

**2.5 points**

4) Suppose we insert the value 97 into the heap built in the previous question. The resulting heap will then be:

**2.5 points**