

Homework 9 (Max Points:100)

Due Date: April 8 by 11:59 pm EST

Instructions: Each response should be in a .py file. Submit all your code to

<https://submittity.cs.rpi.edu>

Answer the following questions:

1. If $A = \{1, 3, 5\}$, $B = \{3, 5, 6\}$ and $C = \{1, 3, 7\}$. Show that $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$. **(25 points)**

2. Let $A = \{a, b, d, e\}$, $B = \{b, c, e, f\}$ and $C = \{d, e, f, g\}$

(i) Verify $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

(ii) Verify $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$

For both parts above write down as comments in your .py file if the relationship is verified or not. **(50 points)**

3. Write a Python program to find maximum and the minimum value in a set with values 5,10,3,15,2,20. *Hint: Use max and min functions.* **(25 points)**