Assignment #3
Due: 26th of November, 2021

NOTE: Read this please

Submit in hard form and must be in hand written form.
Do not knock just slide beneath the office door.

Question 1: **(25 Marks)**

Let R1 = {(1, 2), (2, 1), (3, 2)} and R2 = {(1, 1), (2, 1), (3, 1)} be relations from {1, 2, 3} to {1, 2}. Find

1.1. $(R1 \cup R2)^{-1}$ and $\overline{R1 \cup R2}$
1.2. $(R1 \cap R2)^{-1}$ and $\overline{R1 \cap R2}$
1.3. $(R1 - R2)^{-1}$ and $\overline{R1 - R2}$
1.4. $(R2 - R1)^{-1}$ and $\overline{R2 - R1}$
1.5 $(R1^{-1})^{-1}$ and $\overline{R1^{-1}}$

Question 2: **(25 Marks)**

Draw the matrix representing the relation R on A = {1, 2, 3, . . . , 10} consisting of the first 10 positive integers have if *R*
2.1. $R = \{(a, b) \mid a \leq b + 1\}$
2.2. $R = \{(a, b) \mid a = b + 1 \text{ or } a = b - 1\}$
2.3. $R = \{(a, b) \mid a + b = 10\}$
2.4. $R = \{(a, b) \mid a + b \leq 11\}$?
2.5 $R = \{(a, b) \mid a = 0 \text{ or } b = 10 \text{ or } a + b = 10\}$

Please Note: I need a matrix of size 10 * 10

Assignment #4
Due: 26th of November, 2021

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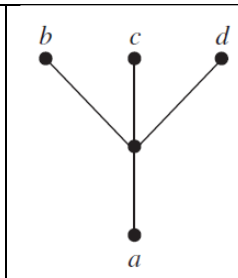
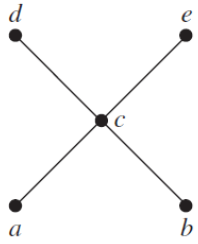
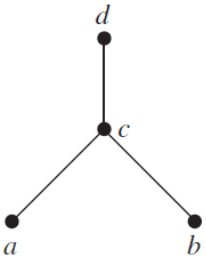
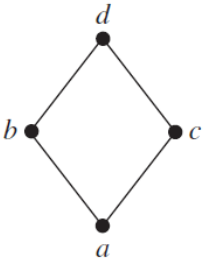
Question 1: **(25 Marks)**

List the ordered pairs (tuples) in the equivalence relations produced by the partitions of the set {a, b, c, d, e, f, g} given below. In simple words find the original equivalence relations R based on the partitions given below. Please note the relation contains tuples only.

1.1. {a, b}, {c, d}, {e, f, g}
1.2. {a}, {b}, {c, d}, {e, f }, {g}
1.3. {a, b, c, d}, {e, f, g}
1.4. {a, c, e, g}, {b, d}, {f}
1.5. {a}, {b}, {c, d, e, d, f, g}

Question 2: **(25 Marks)**

list all ordered pairs in the partial ordering with the accompanying Hasse diagram.

2.1		2.2	
2.3		2.4	

2.5