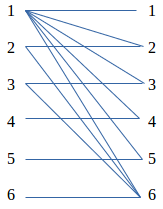
Jennifer Cafiero

CS 135 HW 7

I pledge my honor that I have abided by the Stevens Honor System.

Section 9.1

1. 1. {(0,0), (1,1), (2,2), (3,3)}
3. {(1,1), (1,2), (1,3), (1,4), (1,5), (1,6), (2,2), (2,4), (2,6), (3,3), (3,6), (4,4), (5,5),(6,6)}
4. 
5. 1. Transitive
   2. Reflexive, transitive, symmetric
   3. Symmetric
   4. Antisymmetric
   5. antisymmetric, reflexive, symmetric, transitive
6. 1. antisymmetric, transitive
   2. reflexive, symmetric, transitive
   3. reflexive, symmetric, transitive
   4. reflexive, symmetric
7. 1. {(1,2), (2,3),(3,4), (1,1), (2,1), (2,2), (3,1), (3,2), (3,3)}
   2. {(1,2), (2,3), (3,4)}
   3. {}
   4. {(1,1), (2,1), (2,2), (3,1), (3,2), (3,3)}
8. S o R = {(1,1), (1,2), (2,1), (2,2)}  
   R o S = {(2,2), (2,3), (3,2), (3,3), (3,4), (2,1)}

Section 9.3

2. 1. {(1,1), (1,2), (1,4), (2,1),(2,3),(3,2),(3,3),(3,4),(4,1),(4,3),(4,4)}
4. {(a,a), (a,c), (b,a), (b,b), (b,c), (c,c)}

Section 9.4

1. 1. { (0,0), (0, 1), (1, 1), (1, 2), (2, 0), (2, 2), (3, 0), (3, 3) }
   2. { (0,1), (0, 2), (0, 3), (1,0), (1,1), (1, 2), (2,0), (2,1), (2,2), (3,0)}
2. 1. {(a,c), (b,d), (c,a), (d, b), (e,d), (a,a), (b,b), (c,c), (c,a), (d,d), (d,b), (e,b), (e,d), (a,c)}
   2. {(b,c), (b,e), (c,e), (d,a), (e,b), (e,c), (b,b), (c,b), (c,c), (e,e)}