Assignment 3

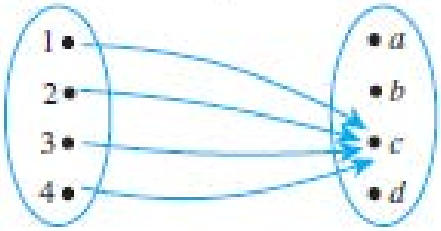
Question1 :

Let A = {2, 3, 4} and B = {6, 8, 10} and define a relation R from A to B as follows:
For all (x, y) $\in$ A $\times$ B, (x, y) $\in$ R means that y / x is an integer.

a. Is 4 R 6? Is 4 R 8? Is (3, 8) $\in$ R? Is (2, 10) $\in$ R?
b. Write R as a set of ordered pairs.
c. Write the domain and range of R.
d. Draw an arrow diagram for R.

Question2 :

Let C = {1, 2, 3, 4} and D = {a, b, c, d}. Define a relation R from C to D representd by the following arrow diagram:



a. Write the domain and range of R.
b. Is R reflexive, symmetric or transitive

Question 3:

Write a C++ program to:
1.Generate a matrix for a given set and relation:

Input:
A={1, 2, 3, 4 }
B={ a, b, c}
R={ (1,a) , (2,c) , (3, b) }

Output:

	a	b	C
1	1	0	0
2	0	0	1
3	0	1	0
4	0	0	0

2. Generate two matrix tor two relations (you can assume the relations) that multiply two matrices, then find the composition matrix using matrix multiplication.

Note: You need to submit the source code and the output.