Worksheet 19 Solution

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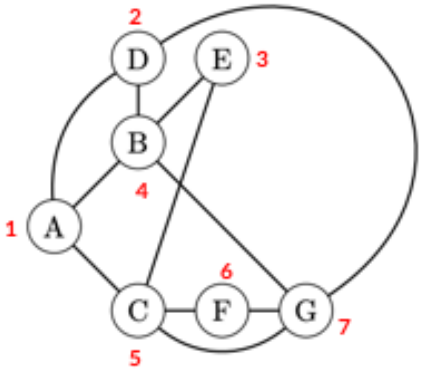
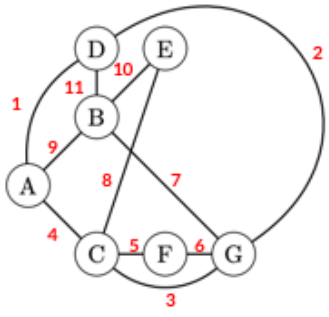
Question 1

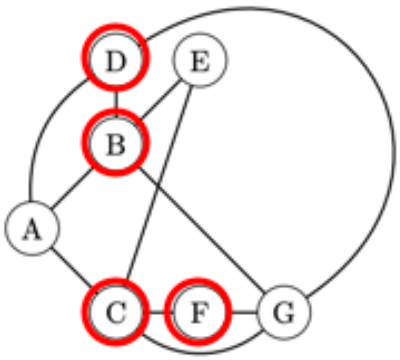
a. By the figure below, we can conclude there are 7 vertices.



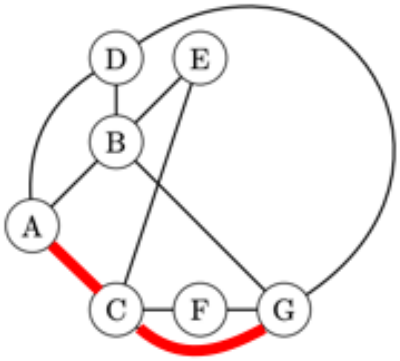
b. By the figure below, we can conclude there are 11 edges.



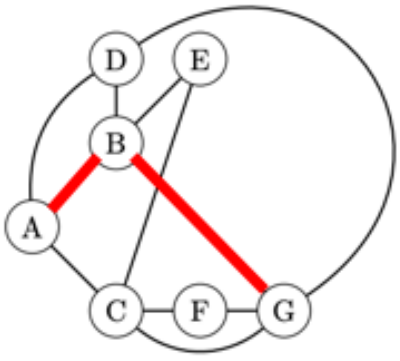
c. By the figure below, we can conclude there are 4 vertices adjacent to G.



d. By the figure below, we can conclude the distance between A ang G is 2.

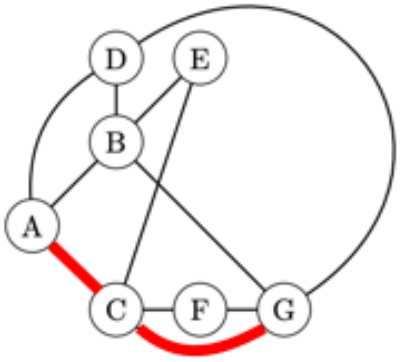


There are 2 shortest paths between A and G. One is the path from A to C to G as shown above, and the other is the path from A to B to G

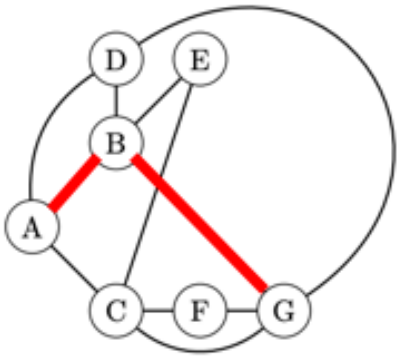


Correct Solution:

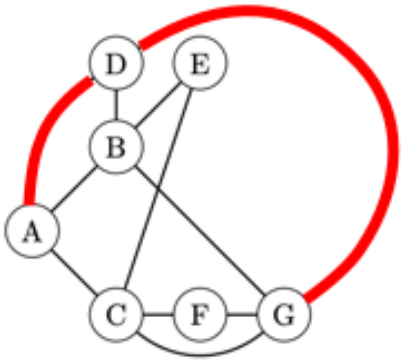
By the figure below, we can conclude the distance between A ang G is 2.



There are 3 shortest paths between A and G. One is the path from A to C to G as shown above, and the other is the path from A to B to G



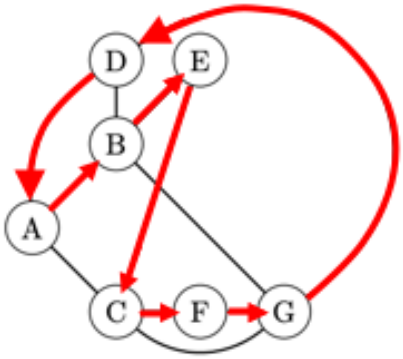
and the last one is from A to D to G



Notes:

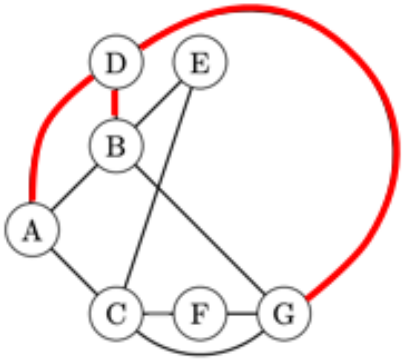
- **Distance** is the number of edges in a shortest path.

e. Path [C,F,G,D,A,B,E] is one example that goes through all vertices of the graph.



Question 2

a. By the figure below, we can conclude the degree of vertex D is 3.



Question 3