

# LAB REPORT

DSA Lab : 6

Implementing Non-linear Data Structures - Graph

addVertex(newVertex):

```
Vertices added  
Number of vertices: 10
```

addEdge(vertex1, vertex2): Adds an edge from vertex1 to vertex2

```
Vertices added  
Number of vertices: 10  
1 -> 2 3 4 7  
2 -> 1 5 6 3  
3 -> 1 2 4 5  
4 -> 1 3 5  
5 -> 2 3 4 6 7  
6 -> 2 5 7  
7 -> 1 5 6 8 9  
8 -> 7  
9 -> 7  
10 ->  
-----
```

removeVertex(vertexToRemove): Remove a vertex from the graph

```
After removing:  
Vertex 5 has been removed.  
Vertex 3 has been removed.  
Vertex 2 has been removed.
```

removeEdge(vertex1, vertex2): Remove an edge from the graph

```
Edge from 6 to 7 has been removed.  
1 -> 4 7  
4 -> 1  
6 ->  
7 -> 1 8 9  
8 -> 7  
9 -> 7  
10 ->
```

numVertices(): Returns the number of vertices in the graph

```
Number of vertices: 7
```

```
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```