

CSN-261 L8 REPORT

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PROBLEM STATEMENT 1:

Objective:

- 1) To find all shortest paths between all pair of vertices in a weighted graph.
- 2) Modify this algorithm to find all shortest paths between two nodes, if more than one occurs.

Algo's:

Dijkstra's, Betweenness Centrality(concept), JGraphT..

```
as1ngh@TELOWART:~/Downloads$ java q1
Betweenness Centrality0->7.8333
Betweenness Centrality1->1.3333
Betweenness Centrality2->6.75
Betweenness Centrality3->2.6667
Betweenness Centrality4->0.0
Betweenness Centrality5->9.0
Betweenness Centrality6->0.0
Betweenness Centrality7->1.75
Betweenness Centrality8->7.0
Betweenness Centrality9->6.25
```

PROBLEM STATEMENT 2:

Objective:

- 1) Given a string of 'N' characters print all the words present in a dictionary of length 'M' such that $3 < M \leq N$.

Algo's Discuss:

Tries, Hash maps...

```
as1ngh@TEELLOWART:~/CSN261/L8/Q2$ java Trie
```

```
great
```

```
4:
```

```
gear
```

```
rage
```

```
gate
```

```
rate
```

```
tear
```

```
tare
```

```
Count->4=6
```

```
5:
```

```
great
```

```
greta
```

```
grate
```

```
Count->5=3
```