**Osman Mantıcı**

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**Data Structures Project #3 Report**

1. This is the adjacency matrix of my graph.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cem** | **Ayse** | **Belma** | **Edip** | **Dundar** | **Gamze** | **Ferit** | **Halit** | **Ilke** | **Jale** |
| **Cem** | **0** | **1** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** |
| **Ayse** | **1** | **0** | **1** | **0** | **1** | **0** | **1** | **0** | **0** | **0** |
| **Belma** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** |
| **Edip** | **0** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Dundar** | **1** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **0** | **0** |
| **Gamze** | **0** | **0** | **0** | **1** | **1** | **0** | **1** | **1** | **0** | **0** |
| **Ferit** | **1** | **1** | **0** | **0** | **1** | **1** | **0** | **1** | **0** | **0** |
| **Halit** | **0** | **0** | **0** | **0** | **0** | **1** | **1** | **0** | **1** | **0** |
| **Ilke** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** |
| **Jale** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** |

1. This is the centrality scores of graph.

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Degree Centrality** | **Closeness Centrality** | **Betwennes Centrality** |
| **Cem** | **0.33** | **0.50** |  |
| **Ayse** | **0.44** | **0.53** |  |
| **Belma** | **0.33** | **0.43** |  |
| **Edip** | **0.33** | **0.50** |  |
| **Dundar** | **0.67** | **0.60** |  |
| **Gamze** | **0.44** | **0.60** |  |
| **Ferit** | **0.56** | **0.64** |  |
| **Halit** | **0.33** | **0.56** |  |
| **Ilke** | **0.22** | **0.41** |  |
| **Jale** | **0.11** | **0.30** |  |

This graph shows a network of a little group and their several scores such as betwenness, degree or closeness centrality.

The degree centrality scores shows that who is the most known person in the network. The closeness centrality scores shows more central nodes which is the lowest its total distance to all other nodes.

The betweenness centrality scores shows again more central node and other vertexes use this vertex in order to flowing shortest path.

The most powerfull node of this graph is Ferit, unless the most popular node is Dundar but the Ferit is more powerfull in respect of reaching the other all nodes and the others visit this node to go through with shortest path.

This graph is not centralized graph because there is no a center node that the other nodes not directly connected to this node. This graph more likely decentralized graph because there is no center node, and the nodes of the graph not connected the each other node by node. Graph concentrate on some nodes but this is not mean centralized.