29. 03. 2018

LABWORK 8

Due date: 23:55 31.03.2018

(There is %10 penalty for each day)

Part A:

In the given graph class, implement the methods below:

- Write a function which returns the indegree of input vertex **(15 pts)**
  int findInDegree(int c);

- Write a function which returns the indegree of input vertex c **(15 pts)**
  int findOutDegree(int c);

- Write a function which returns the total number of edges in the graph **(15 pts)**
  int findNumberOfEdges();

- Write a function which displays all indegree and outdegree of all vertices in the graph and total number of edges **(15 pts)**
  void displayInfo();

Part B:

- In the main function display the order in which the vertices are visited in BFS and DFS, using the implementation given. (**10 pts)**

- Write a function which finds the shortest path by using BFS. Given an arbitrary pair of nodes a and b, find the order of nodes in the shortest path between a and b, as well as the distance when this path is chosen. **(30 pts)**