Wiki sheet for task 2 21.12.19 Written by: Ofir bador ID 302639281 && Elnatan Berenson ID 203641774

General orientation: At this project [2] we build many classes in many packages – in dataStructure: 'Node' which realized 'node\_data', 'Edge' which realized 'edge\_data', 'DGraph' which realized 'graph'. In algorithms: 'Graph\_Algo' which realized 'graph\_algorithms' and NodeComperator which sort the nodes. Finally- Graph\_GUI which response to present draw of Graphs. (include their tests)

To build this project we used HashMap structure. The first is for Nodes, second for Edges and the third is for connect between nodes to edges.

In the Node class: there are many nodes constructors (their data – key, weight and location), getter&&setter.

In the Edge class: there are many edges constructors (their data – src, dest and weight), getter&&setter.

In the DGraph class: there are many methods – constructor which beild a graph by 2 Array inputs – node&edge. In addition, methods which add/remove node, remove edge, function which connect between 2 nodes (new edge) and init weight. Collections of nodes and edges.

In the Graph\_Algo class: there are two main function 'isConnected' && 'shortestPathDist' – those realized by BFS && DIJKSTRA algorithms. In addition we build Comperator for sort the edges by their weights.

In the Graph\_GUI class: this is a new class in this project. The role of this class is to draw graph by GUI INTERFACE. The interface init by many parameters like width or height size screen, the colors lines/text etc'

For this project has a Junit tests. the purpose is to check that all function in the class are working well.