

Student: Sam Plant

ID: 21309892

Data Structures and Algorithms

Critical Reflection

Week 6 – Task A

Table of Contents

**Analysis of task2**

What went well2

Encountered difficulties2

**Difficulty assessment2**

**Improvement/Reflection2**

**Analysis of tasks**

What went well

The task was to allow addition of nodes and edges to a node graph. The programme was required to display all edges, all nodes, allow user to add edges between two given nodes, and add nodes to the graph. The addition of nodes and display of these features were simple, whereas adding an edge proved more difficult, however, was overcome.

Error catching was implemented with user input for adding a new node and catching if the new edge is between the two nodes.

Encountered difficulties

I did toy with the idea of removing edges and displaying all associated edges with a node, this was not necessarily hard to implement, however, was not the specification of the task so had to approach adding and displaying the edges in a way that was visual within a selection box. This was difficult initially with sorting out which was the parent of the edge, and which was the subsequent child. After some tampering this was easily fixed, and the output added both parent and child displayed.

**Difficulty assessment**

The encountered difficulty was not hard to overcome and was plotted out methodically using pseudocode before coding. By grabbing the edge and splitting the source to destination nodes, displaying the result was trivial.

**Improvement/Reflection**

To improve this programme adding a delete function which when a node is deleted also deletes the subsequent edges from or too that node. This would be simple to implement by removing a node and searching through the edge list to remove the edge which corresponds to the deleted node. Another addition would be to display the total path created by the edges added, this would consist of locating all edges from or too one node adding all the edges together would give a full path.