EE1103: Numerical Methods

Assignment 10: Shortest path algorithms

Due: February 20, 2023

1 Problem 1

Find the least cost path of the graph in Figure 1 using the Dijkstra algorithms from node A.

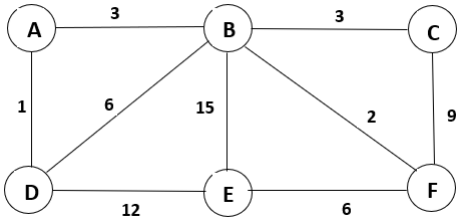

Figure 1:

2 Problem 2

The problem of timing analysis involves finding a critical path through a digital circuit where each element has certain delays associated with it. Figure 2 shows a graphical representation of a circuit where the elements are represented as nodes. The output of one element goes as an input to the other with a certain delay that is represented as the cost of the link between the nodes. Find the shortest path in the circuit that has the minimum delay.

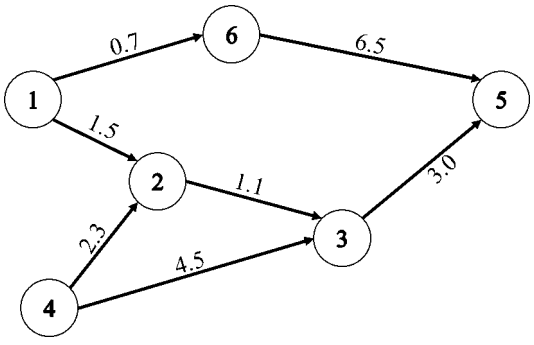

Figure 2: