Project Report

# DATA STRUCTURES

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# Data Structure for storing Graphs:

The data structure used for storing the graph were normal arrays as the number of nodes was already provided in the test cases. Two arrays of Nodes were created with size equal to the number of nodes in each row, one to store top row, and the other one to store bottom row. An array of Edges was created to store all the edges. The edges were sorted after each iteration.

# Implementation of Cuts(Pseudocode):

Cuts = 0

MaxCuts = 0

Loop i from 0 to (number\_of\_nodes – 2):

Cuts = 0

Loop j from 0 to i:

Loop k from (i + 1) to (number\_of\_nodes – 1):

If is\_an\_edge(top\_row\_nodes[j] and bottom\_row\_nodes[k]):

Increment Cuts

End If

End Loop

End Loop

Loop j from (i + 1) to (number\_of\_nodes – 1):

Loop k from 0 to i:

If is\_an\_edge(top\_row\_nodes[j] and bottom\_row\_nodes[k]):

Increment Cuts

End If

End Loop

End Loop

If Cuts > MaxCuts:

MaxCuts = Cuts

End If

Print Cuts

End Loop

Print MaxCuts

# Implementation of Crosses(Pseudocode):

Crosses = 0

Loop i from 0 to (number\_of\_edges – 1):

Loop j from i to (number\_of\_edges – 1):

If position of starting\_edge[i] < position of starting\_edge[j] and position of ending\_edge[i] > position of ending\_edge[j]:

Increment Crosses

End If

End Loop

End Loop

Print Crosses