

## CS 6301.002

### Implementation of Advanced Data Structures and Algorithms

#### Long Project 2: Minimum Spanning Trees

G-07: Salil Kansal, Twinkle Sharma, Sujit Sajja

#### Report

Algorithms implemented:

- LEVEL 1

Algorithm	Dataset	Running time
Prim1	Sp0pq-big.txt	4 sec
Prim2	Sp0pq-big.txt	2 sec
Kruskal	Prim1.txt	<1 sec

- LEVEL 2
  - Edmond's branching algorithm

Problems faced:

- Compressing the graph to a single node was not working in the beginning. Used some Oops techniques for it.
- Decompressing a node back to its original cycle was very confusing.
- Level 2 running successfully for the 0-lp2.txt but is giving NPE for others.

Design Decisions:

- Created a class super vertex and super edge.

Test results:

- Level 1 working for all the test cases provided.
- Level 2 is working for test case 1 but is giving NPE for the rest of test cases.

References:

StackOverflow

Wikipedia