Readme:

The source code supplied with ".ipynd" extension can be executed with Jupiter notebook installation & anaconda. (To install visit http://jupyter.readthedocs.io/en/latest/install.html)

It is implemented in python.

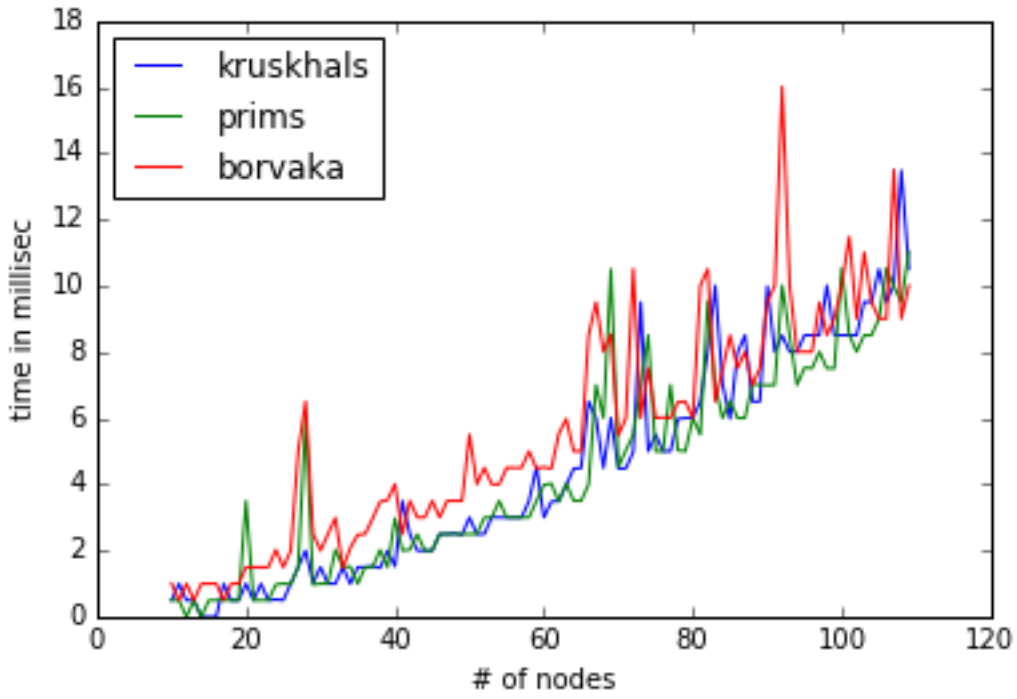
As reference view code '.txt' & '.html' have been given.

Synopsis :

We have implemented 3 algorithms name kruskhals, prims & borvaka in reference to pdf assignment doc given.

The input graphs are stored in /input_graphs folder as .txt file in format specified(the program however generates new /input_graphs with new graphs if not found).

Performance graph:



With increase in number of nodes the graph density increases(i.e more and more edges are added).

The lower the line in graph, better the performance.

We can see the prims and kruskhals both perform almost the same since the time complexity is same- O(E logV)

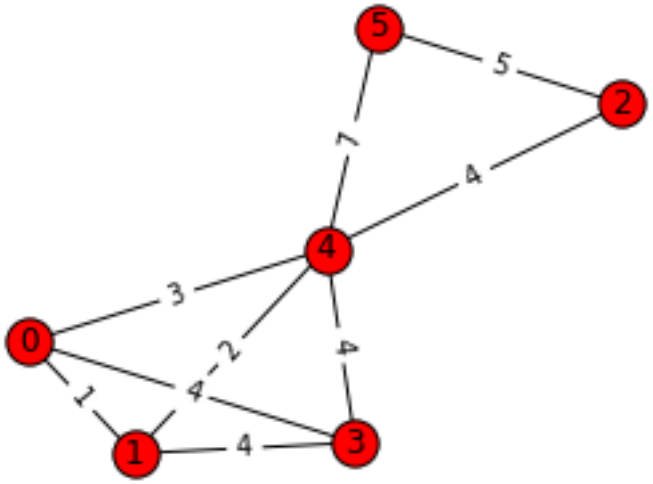
Borvaka takes slightly more time for many input graphs as the graph density increases(i.e when more edges are added). Its time complexity is O((E+V)logV)

The graph has been plotted for 100 input graphs starting 10 nodes to 110.

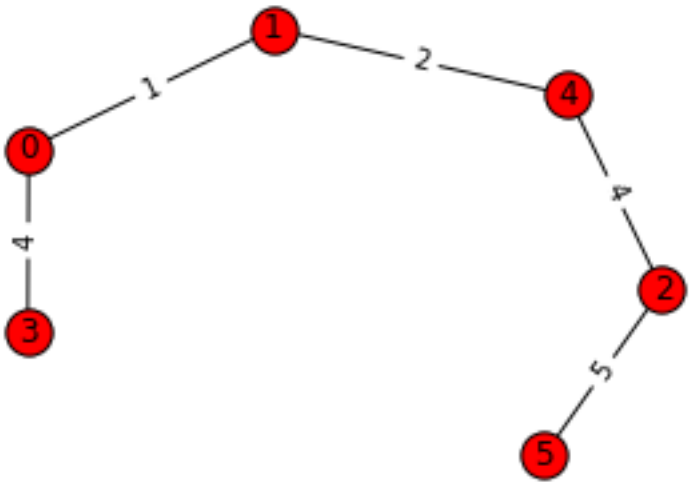
The graphs are subjected to changes in random input graphs generated & changing processing time but the overall trend remains same.

Sample graphs:

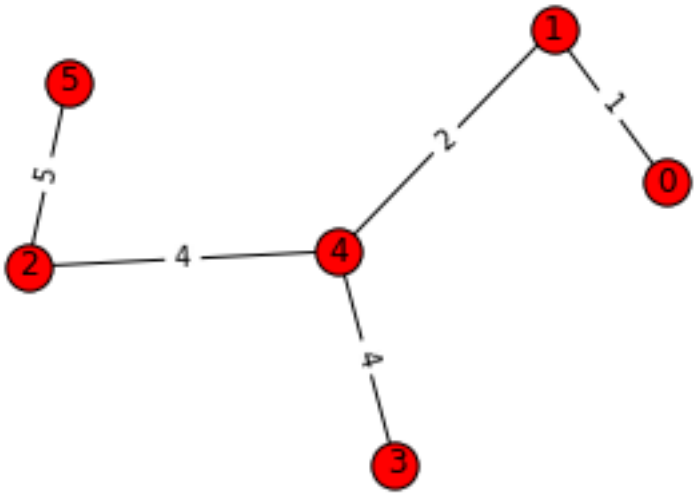
Input graph



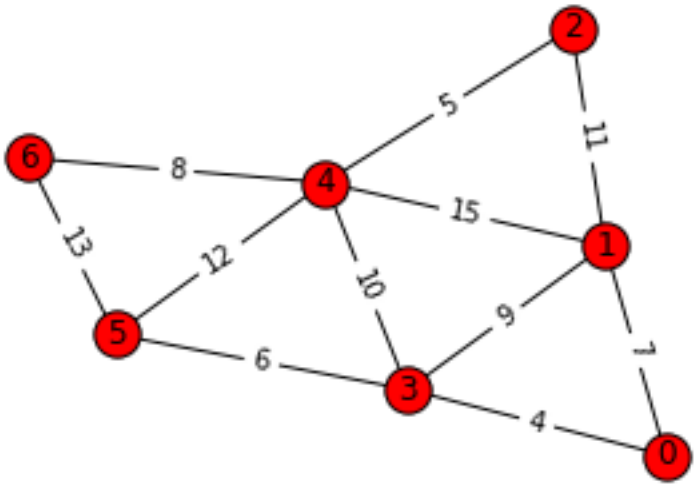
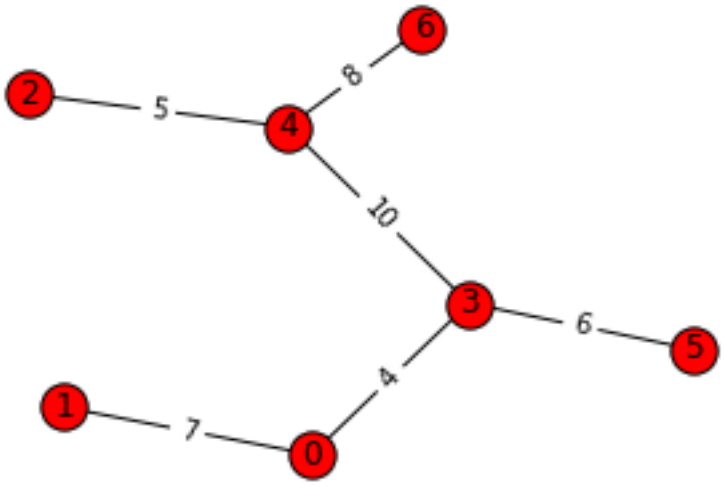
Kruskhals mst


1
2
4
1
0
4
4
2
3
5
5

Prims mst



Sample input



Borvaka mst