CS431 : Assignment 2
Deadline: 11.55PM 28th Aug 2013

Submission Procedure: Email your ML program and test cases as attachment to < asahu AT iitg.ernet.in> and name of the attached file should be #RollNo.Assign1.CS431.ml

Simple and best rule: Copy case lead to F grade without any excuse.

Assignment Statement:

Implement Dijkstra's single-source shortest path algorithm in SML for a directed graph with non-negative edge costs.

In general Dijkstra algorithm produces a shortest path tree from the source, but you need to print path from a source node to destination node. Your top level ML function should take 3 inputs: graph, source node and destination node.

You can specify directed graph with non-negative edge costs with list of edges and each edge having nodeS, nodeD and weight.

```
G=[ ("a","b",5), ("d","e",10), ... ,("l","k",3)]

(* You may add any helper functions to support DijkSS(G, s, d).
   You are allowed to use inbuilt library functions of modules
   Queue, Stack,...
*)

fun DijkSS(G, s, d)=
(*
write your code here
*)

(* use of Function*)

DijkSS(G, "a", "k");
```

Include two test Graphs (upto 10 nodes) and some test cases in your ML program.