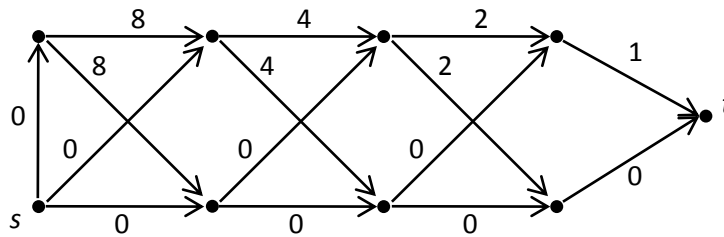


DISCRETE OPTIMIZATION WEEK 12

EXERCISE 1

The objective of this exercise is to show that Ford's algorithm can take an exponential number of steps in the worst case.

Consider the following directed graph :



Show that there is a sequence of steps in which the variable y_t of the node t takes all the values 15, 14, 13, ..., 1, 0.

EXERCISE 2

Give an example to show that Dijkstra's algorithm can give incorrect results if negative costs are allowed.