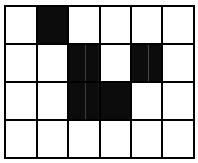
CENG 242
Homework # 2

(Due: March 19th, 2006 Sunday 23:59)

This time you are asked to find a path (*) between two rooms of a given maze. A maze is a rectangular building made up of square rooms, some of which are closed. While finding the path, you will begin from the start room and at each step you move to a neighbor (up, down, left or right) room if it is not closed, and reach to the finish room. A sample maze can be:



You will write a function **solvemaze** which gets the maze, start and end rooms as arguments:

solvemaze <the-maze> ($column_{start}$, row_{start}) ($column_{end}$, row_{end}) (**)

and returns a list of characters consisting of 'U' (Up), 'D' (Down), 'L' (Left) and 'R' (Right) defining the path between start and end rooms.

The maze will be given as list of lists of 0's and 1's. For example, the above maze can be represented as:
[[0,1,0,0,0,0],[0,0,1,0,1,0],[0,0,1,1,0,0],[0,0,0,0,0,0]]

Example:

solvemaze [[0,1,0,0,0,0],[0,0,1,0,1,0],[0,0,1,1,0,0],[0,0,0,0,0,0]] (1,1) (4,2)
"DDDRRRRRUUULLD"

solvemaze [[0,1,0,0,0,0],[0,0,1,0,1,0],[0,0,1,1,0,0],[0,0,0,0,0,0]] (6,1) (6,4)
"DDLDR"

(*) The solution is not unique, so any solution path will be considered as true.
(**) The upper left corner should be considered as (1,1).