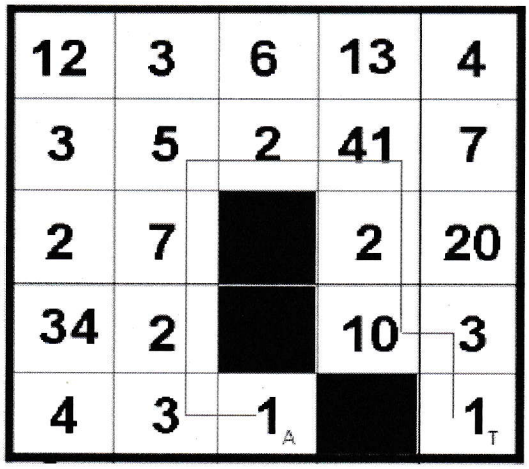
Question-5 [20 Points]:

In this programming problem, you are required to get familiar with *python* programming language and debug an algorithm implemented in python. We will be solving a navigation problem of a agent in a grid world.

Problem Description:

Consider grid-worlds with square cells. Cells are either blocked or unblocked. The start cell of the agent is unblocked. The agent can only move from its current cell to one of the four adjacent cells within the proximity of the grid at each step (no diagonal moves allowed), the cost of move to blocked cells is infinity (which means the agent cannot move across the blocked cell), for unblocked cell, the cost is as given in the input grid. Its objective is to move from its start cell to a given goal cell minimizing the cost. The path cost is calculated as the sum of the cost of traversing all the cells in the path. The path cost for the path shown (red line) in the figure below is 76.

The following figure shows an example of 5*5 grid terrain with black cells referring to the blocked cells, white cells referring to the unblocked cell. The number inside each cell indicates the cost to reach the cell. Here, Start cell = Agent (A). Goal cell = Target (T).



17+43+12+1+3
60+16=76