MCS/CS 401, Spring 2020, HW 4, Exercise 5

March 11, 2020

5) *a)* There is an $m \times n$ array of positive integers. A zig-zag path from the top left corner to the bottom right corner can move down or to the right. The cost of a move is the absolute value of the difference between the two numbers. For example, moving from 5 to 8 costs $|5 - 8| = 3$. Design a dynamic programming algorithm to find a maximum cost path.

b) Use your algorithm to find a maximum cost path in the 4×3 array

$$\begin{bmatrix} 9 & 13 & 7 \\ 7 & 3 & 10 \\ 9 & 6 & 1 \\ 2 & 8 & 4 \end{bmatrix}$$