

# COMP361 Tutorial on Dynamic Programming

## Question 1

Go through a proof of CMM correctness in detail.

## Question 2

- (a) Use the algorithm given in lectures (on Dynamic Programming and LCS) to determine a Longest Common Subsequence for the inputs  $X = \langle 1, 0, 0, 1, 0, 1, 0, 1 \rangle$  and  $Y = \langle 0, 1, 0, 1, 1, 0, 1, 1, 0 \rangle$ .
- (b) Write an algorithm to reconstruct a LCS from the completed  $c$  table in  $(m + n)$  time. That is, use Method 2 on described in the lecture on LCS, directly using the table constructed by the algorithm in the lectures, without  $b$  matrix.

## Question 3

Go through your favourite Dynamic Programming algorithm using an example. I suggest try to pick something from the ACM ICPC or ANZAC League contests!