HW11
1061036S

1. Algorithm:

I use bottom-up approach to implement a memo table of lengths of subsequences.

compute_l:

For i = 0 ~ length
    length[i][0] = 0
    length[0][i] = 0
For i = 1 ~ length
    For j = 1 ~ length
        If length[i][j] is empty
            If sequenceA[i] equals sequenceB[j]
                length[i][j] <— length[i-1][j-1] +1
            else
                length[i][j] <— max(length[i-1][j], length[i][j-1])
Return length[length][length]

At last, return the length of the longest common subsequence between the two sequences of interest.

2. Worst-case running time:

$O(n^2)$, n is the length of the sequences (same length).