

Q4

Written by Xiao Hu
Z5223731

We sort the set of n jobs in decreasing order of profit, then go through the set from the second on the left to the right. (the first job on the left has the largest profit)

We compare each job with the jobs on the left, and shift to the left if the deadline of the job is before the one on the left. This is like bubble sort.

For example, there are three jobs in decreasing order of profit, J_1, J_2 and J_3 , and $D_1 = 8, D_2 = 5$ and $D_3 = 3$, we go through from J_2 and compare deadline of J_2 with J_1 , $D_2 = 5 < D_1 = 8$ so that we swap them, then we get new order, J_2, J_1 and J_3 . Then we start from next job which is J_3 , we compare D_3 with D_1 , then we get J_2, J_3 and J_1 , then compare D_3 with D_2 , we get final order J_3, J_2 and J_1 .

This will run in time $O(n^2)$.