

Question 4

First, sort the jobs in decreasing order of profit in a new sequence. Then execute the job according to the new sequence.

By the greedy method, we make the high profit job priority, the job can be completed by its deadline, therefore, we can get maximum profit by this method.

For time complexity, using selection sort, there are n jobs, the time complexity is $O(n^2)$,

For n jobs, hence, each one execution is $O(1)$, we can get $O(n)$

$$O(n^2 + n) = O(n^2)$$