Name: Minh Khai Tran
zID: z5168080

Question 4:

- First, we need to sort all the jobs in decreasing order of profit.
- Let's define a time frame from 0 to the greatest deadline called $timeFrame$
- Now, we loop through the list of sorted jobs: $O(n)$
    - At each job with deadline $d_i$:
        - We try to schedule that job at an available time slot in the $timeFrame$ at $d_i - k$, so that $d_i - k > 0, k > 0$ $and\ k\ is\ the\ smallest\ integer\ as\ possible$, this takes $O(n)$ time.
        - Put that job in that time slot and mark that time slot as occupied.
        - Continue doing this until we reach the end of the list of sorted jobs.
- Eventually, we got the subset of jobs that maximise the profit.
- Time complexity is $O(n^2)$