COMP9101 Ass02
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Q5:

In order to get the most profits in the given time, we should use the max priority queue to establish a data structure. We should first sort jobs according to the ending time in descending order, from the largest number to enqueue, after enqueue all the missions, we should dequeue the queue according to the profit, for the same ending time, we should pick the profit which is higher. The sudo-code may show like below:

```
1  job_N= [n1, n2, ...,ni];
2  sort(job_N)
3  enqueue(job_N)
4  dequeue(job_N)
5
```

For line 2, the time complexity is O(nlogn);
For line3, the time complexity for enqueue is O(nlogn)
For line4, when we try to get the number, which satisfy the requirement, the time complexity is also O(nlogn)
Therefore, the total time complexity is O(nlogn);