197. We have n jobs, where every job is scheduled to be done from startTime[i] to endTime[i], obtaining a profit of profit[i]. You're given the startTime, endTime and profit arrays, return the maximum profit you can take such that there are no two jobs in the subset with overlapping time range. If you choose a job that ends at time X you will be able to start another job that starts at time X.

Program.

```
def jobScheduling(startTime, endTime, profit):
    jobs = sorted(zip(startTime, endTime, profit), key=lambda x: x[1])
    n = len(jobs)
    dp = [0] * n
    dp[0] = jobs[0][2]  # Initialize dp for the first job
    for i in range(1, n):
        current_profit = jobs[i][2]
        prev_non_overlap = -1
        # Find the most recent non-overlapping job
        for j in range(i - 1, -1, -1):
            if jobs[j][1] <= jobs[i][0]:
                prev_non_overlap = j
                break
        if prev_non_overlap != -1:
            current_profit += dp[prev_non_overlap]
        dp[i] = max(dp[i - 1], current_profit)
    return dp[-1]
# Example 1
startTime1 = [1, 2, 3, 3]
endTime1 = [3, 4, 5, 6]
profit1 = [50, 10, 40, 70]
print(jobScheduling(startTime1, endTime1, profit1))  # Output: 120
# Example 2
```

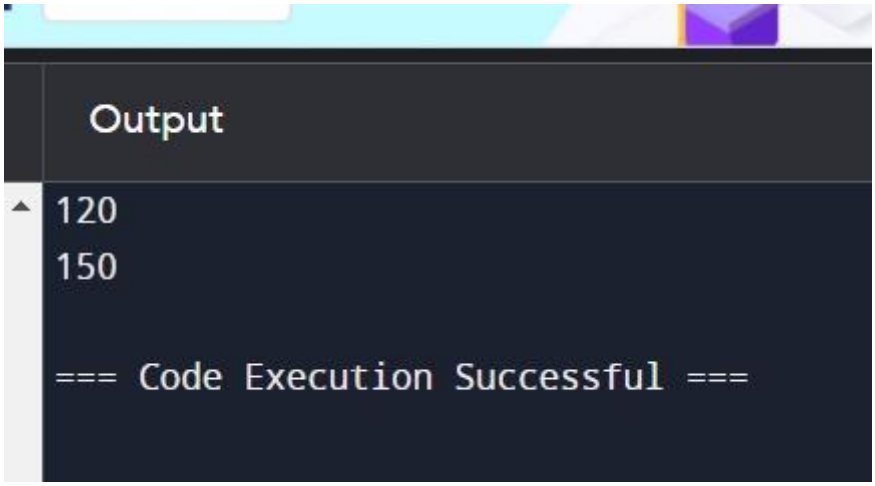
startTime2 = [1, 2, 3, 4, 6]

endTime2 = [3, 5, 10, 6, 9]

profit2 = [20, 20, 100, 70, 60]

print(jobScheduling(startTime2, endTime2, profit2))

Output:




Time complexity: O(nlogn)