

Assignment No : 02

Problem Statement :

Implement job sequencing with deadlines using a greedy method.

Objective :

To find the sequence of jobs, which is completed within their deadlines and give maximum profit. If a set of n jobs are given which are associated with deadlines and profit is earned and a job is completed by its deadline.

Theory :

Given an array of jobs where every job has a deadline and associated profit if the job is finished before the deadline. It is also given that every job takes single unit of time, so the minimum possible deadline for any job is 1. How to maximize total profit if only one job can be scheduled at a time.

Example:

Input: Four Jobs with following deadlines and profits

JobID	Deadline	Profit
a	4	20
b	1	10
c	1	40
d	1	30

Output: Following is maximum profit sequence of jobs:

c, a

Greedy approach for job sequencing problem:

Greedyly choose the jobs with maximum profit first, by sorting the jobs in decreasing order of their profit. This would help to maximize the total profit as choosing the job with maximum profit for every time slot will eventually maximize the total profit.

Conclusion :

Thus we Implement job sequencing with deadlines using a greedy method. which is completed within their deadlines and give maximum profit.