**Assignment No:2**

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**Program:**

import java.util.\*;

class Job {

int jobID;

int deadline;

int profit;

Job(int jobID, int deadline, int profit) {

this.jobID = jobID;

this.deadline = deadline;

this.profit = profit;

}

int getprofit()

{

return profit;

}

}

public class Ass\_2{

void final\_ans(Job[] jobs, int n)

{

int maxDeadline = 0;

for (int i = 0; i < n; i++) {

if (jobs[i].deadline > maxDeadline) {

maxDeadline = jobs[i].deadline;

}

}

int m=maxDeadline;

int[] slot=new int[m];

Arrays.fill(slot, 0);

Arrays.sort(jobs,Comparator.comparingInt(Job::getprofit).reversed());

int cnt=0,total=0;

for(int i=0;i<n && cnt<m;i++)

{

for(int j=jobs[i].deadline-1;j>=0;j--)

{

if(slot[j]==0)

{

slot[j]=jobs[i].jobID;

cnt++;

total+=jobs[i].profit;

break;

}

}

}

System.out.println("Maximum profit is :"+total+" With following job slots");

for(int i=0;i<m;i++)

{

System.out.println(slot[i]+" ");

}

}

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter the size of Array");

int n = sc.nextInt();

Job[] jobs = new Job[n];

for (int i = 0; i < n; i++) {

System.out.println("Enter job ID, deadline, and profit for job " + (i + 1) + ":");

int jobID = sc.nextInt();

int deadline = sc.nextInt();

int profit = sc.nextInt();

jobs[i] = new Job(jobID, deadline, profit);

}

Ass\_2 obj=new Ass\_2();

obj.final\_ans(jobs,n);

}

}

**Output:**

Enter the size of Array

5

Enter job ID, deadline, and profit for job 1:

1

2

30

Enter job ID, deadline, and profit for job 2:

2

1

20

Enter job ID, deadline, and profit for job 3:

3

1

70

Enter job ID, deadline, and profit for job 4:

4

3

10

Enter job ID, deadline, and profit for job 5:

5

2

90

Maximum profit is :170 With following job slots

3

5

4

=== Code Execution Successful ===