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CSL4403

Lab-05 / Assignment -05

Problem Statement : Write a program to implement Job Sequencing with Deadlines .

Job Sequencing With Deadlines

Final Deadline 3

Job Id	Profit	Deadline
1.	100	1
2.	50	1
3.	30	2
4.	70	2
5.	30	3
Total Profit	200	

Program Code C++ :

```
#include <iostream>
#include <bits/stdc++.h>
using namespace std;

//1.Sort the profit in decreasing order
//2.set the job just before of before deadline Time.

struct Job{
    int JobNo;
```

```

int deadL;
int profit;
};

bool comparison(Job a, Job b)
{
    return (a.profit > b.profit);
}

void JobSchedulingUsingDeadline(Job a[],int n, int finaldead){
    sort(a,a+n,comparison);

    int result[n],totalprofit=0;
    bool slot[n];

    for(int j=0;j<n;j++){
        slot[j]=false;
    }

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

        for(int j=min(n,a[i].deadL)-1;j>=0;j--){
            if(slot[j]==false){
                totalprofit+=a[i].profit;
                result[j] = i; // Add this job to result
                slot[j] = true; // Make this slot occupied
                break;
            }
        }
    }

    cout<<"Jobs Sequencing Order : ";
    for(int o=0;o<n;o++){
        if(slot[o]){
            cout<< a[result[o]].JobNo+1<<" ";
        }
    }
    cout<<"Total Profit : "<<totalprofit;
}

int main(){
    int no,finaldead;

    cout<<"Enter Total Jobs: ";
    cin>>no;
    cout<<"Enter Your Final Deadline: ";
    cin>>finaldead;
    Job Arr[no];
    cout<<" Profit  Deadline"<<"\n";
    for(int i=0;i<no;i++){

```

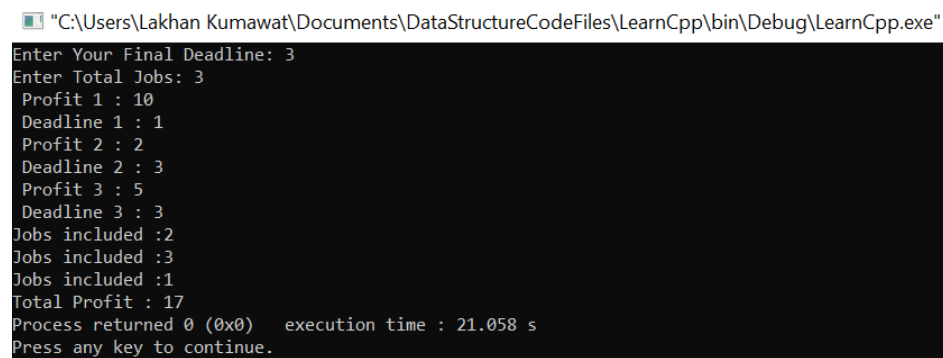
```

    cin>>Arr[i].profit>>Arr[i].deadL;
    Arr[i].JobNo = i;
}

JobSchedulingUsingDeadline(Arr,no,finaldead);
}

```

Outputs : Job sequencing and Profit

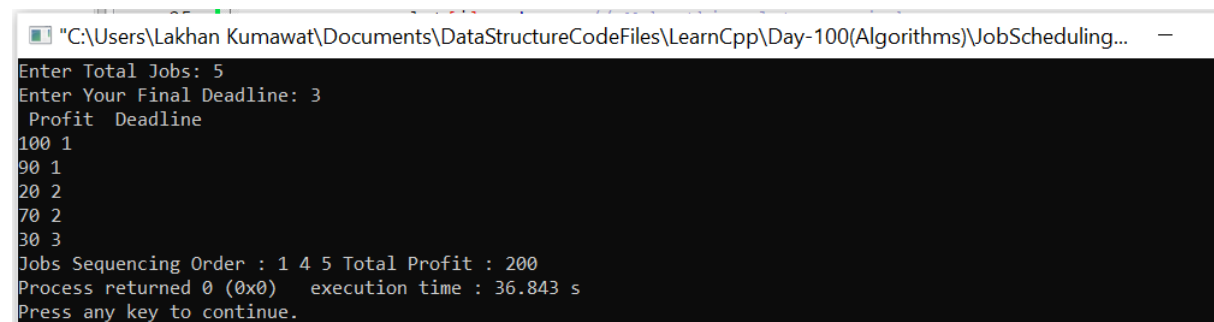


"C:\Users\Lakhan Kumawat\Documents\DataStructureCodeFiles\LearnCpp\bin\Debug\LearnCpp.exe"

```

Enter Your Final Deadline: 3
Enter Total Jobs: 3
Profit 1 : 10
Deadline 1 : 1
Profit 2 : 2
Deadline 2 : 3
Profit 3 : 5
Deadline 3 : 3
Jobs included :2
Jobs included :3
Jobs included :1
Total Profit : 17
Process returned 0 (0x0)   execution time : 21.058 s
Press any key to continue.

```



"C:\Users\Lakhan Kumawat\Documents\DataStructureCodeFiles\LearnCpp\Day-100(Algorithms)\JobScheduling..."

```

Enter Total Jobs: 5
Enter Your Final Deadline: 3
Profit  Deadline
100  1
90   1
20   2
70   2
30   3
Jobs Sequencing Order : 1 4 5 Total Profit : 200
Process returned 0 (0x0)   execution time : 36.843 s
Press any key to continue.

```