// JOB

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#include <algorithm>
#include <iostream>
using namespace std;

// A structure to represent a job
struct Job {

	char id; // Job Id
	int dead; // Deadline of job
	int profit; // Profit if job is over before or on
		// deadline
};

// Comparator function for sorting jobs
bool comparison(Job a, Job b)
{
	return (a.profit > b.profit);
}

// Returns maximum profit from jobs
void printJobScheduling(Job arr[], int n)
{
	// Sort all jobs according to decreasing order of profit
	sort(arr, arr + n, comparison);

	int result[n]; // To store result (Sequence of jobs)
	bool slot[n]; // To keep track of free time slots

	// Initialize all slots to be free
	for (int i = 0; i < n; i++)
	slot[i] = false;

	// Iterate through all given jobs
	for (int i = 0; i < n; i++) {
	// Find a free slot for this job (Note that we start
	// from the last possible slot)
	for (int j = min(n, arr[i].dead) - 1; j >= 0; j--) {
	// Free slot found
	if (slot[j] == false) {
		result[j] = i; // Add this job to result
		slot[j] = true; // Make this slot occupied
		break;
	}
```

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        }
        }
        cout <<"The selected jobs are: "<<endl;
        cout<<"Job_Id  "<<"Deadline  "<<"Profit"<<endl;
        // Print the result
        for (int i = 0; i < n; i++){
        if (slot[i]){
        cout <<arr[i].id<<"       "<<arr[i].dead <<"       " << arr[i].profit <<"     "<<endl;
        }
        }

        // printing the maximum profit
        cout << endl;
        // calculate the profit
        int ans_profit = 0;
        for (int i = 0; i < n; i++){
        if (slot[i]){
        ans_profit = ans_profit + arr[result[i]].profit;
        }
        }
        cout <<"The Maximum Profit is: "<< ans_profit <<endl;
}

// Driver's code
int main()
{
//  struct Job arr[] = { { 'a', 2, 100 },
//                  { 'b', 1, 19 },
//                  { 'c', 2, 27 },
//                  { 'd', 1, 25 },
//                  { 'e', 3, 15 } };

//  int n = sizeof(arr) / sizeof(arr[0]);
        int n;
        cout<<"Enter the size of the array: ";
        cin>>n;
        cout<<"Enter the details as follows: Job_Id , Deadline,  Profit"<<endl;
        struct Job arr[n];

        //take input from user
        for(int i = 0; i < n; i++){
        cout << endl;
        cout << "Enter the Job_Id: ";
        cin >> arr[i].id;
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        cout<<endl<<"Enter the deadline: ";
        cin >> arr[i].dead;
        cout << endl << "Enter the Profit: ";
        cin >> arr[i].profit;
        }


//  cout << "Following is maximum profit sequence of jobs "
//       "\n";


        cout << "Entered details are: "<<endl;
        cout<<"Job_Id  "<<"Deadline  "<<"Profit"<<endl;
        for( int i =0 ; i <n;i++){
        cout <<arr[i].id<<"       "<<arr[i].dead <<"       " << arr[i].profit <<"     "<<endl;
        }
        // Function call
        cout << "Following is maximum profit sequence of jobs "<<endl;

        printJobScheduling(arr, n);
        return 0;
}
```