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// Job Sequencing with Deadline

#include<stdio.h>
#include<stdlib.h>
#include<limits.h>
#define TRUE 1
#define FALSE 0
typedef struct job
{
    int profit;
    int deadline;
}job;
int main()
{
    int n,i,q,k,r,*j,lastprofit=INT_MAX,profit=0;
    int *d,*p;
    printf("Enter the number of jobs : ");
    5
    5scanf("%d",&n);
    n=5;
    j=(int *)malloc((n+1)*sizeof(int));
    p=(int *)malloc((n+1)*sizeof(int));
    d=(int *)malloc((n+1)*sizeof(int));
    if(!j || !p || !d)
    {
        fprintf(stderr,"Insufficient Memory");
        exit(EXIT_FAILURE);
    }
    printf("Enter profit and deadline for %d jobs in descending
order of profits \n",n);
    for(i=1;i<=n;i++)
    {
        scanf("%d %d",p+i,d+i);
        if(p[i]>lastprofit)
        {
            printf("Profit not in descending order. Program will
now terminate.");
            exit(EXIT_FAILURE);
        }
        lastprofit=p[i];
    }
    // Start generating the schedule
    d[0]=j[0]=0;
    j[1]=1;
    k=1;
    profit=p[1];
    for(i=2;i<=n;i++)
    {
        r=k;
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        while((d[j[r]]>d[i])&&(d[j[r]]!=r))r--;
        if((d[j[r]]<=d[i])&&(d[i]>r))
        {
            for(q=k;q>=r+1;q--)j[q+1]=j[q];
            j[r+1]=i;
            profit=profit+p[i];
            k++;
        }
    }
    printf("The maximum profit is %d.\n",profit);
    printf("The schedule is \n");
    for(i=1;i<=k;i++)printf("%d\t",j[i]);
}
```