**#include <stdio.h>**

**main(){**

**printf("Enter the capacity");**

**int capacityoftheknapsack;**

**scanf("%d",&capacityoftheknapsack);**

**printf("Enter the number of objects");**

**int number;**

**scanf("%d",&number);**

**printf("enter the weight of the objects");**

**int i;**

**int theweightsoftheobjects[number][2];**

**for(i=0;i<number;i++){**

**scanf("%d",&theweightsoftheobjects[i][0]);**

**}**

**printf("enter the profit of the objects");**

**int j;**

**int theprofitsoftheobjects[number];**

**for(j=0;j<number;j++){**

**scanf("%d",&theweightsoftheobjects[j][1]);**

**}**

**for(i=0;i<number;i++){**

**for(j=i+1;j<number;j++){**

**float profits1;**

**float profits2;**

**profits1=(float)theweightsoftheobjects[i][1]/theweightsoftheobjects[i][0];**

**profits2=(float)theweightsoftheobjects[j][1]/theweightsoftheobjects[j][0];**

**if(profits1<profits2){**

**int k;**

**for(k=0;k<2;k++){**

**int temp;**

**temp=theweightsoftheobjects[i][k];**

**theweightsoftheobjects[i][k]=theweightsoftheobjects[j][k];**

**theweightsoftheobjects[j][k]=temp;**

**}**

**}**

**}**

**}**

**i=0;**

**int remainingcapacityoftheknapsack;**

**remainingcapacityoftheknapsack=capacityoftheknapsack;**

**float maximumprofits;**

**maximumprofits=0;**

**while(remainingcapacityoftheknapsack>0){**

**if(remainingcapacityoftheknapsack>=theweightsoftheobjects[i][0]){**

**remainingcapacityoftheknapsack=remainingcapacityoftheknapsack-theweightsoftheobjects[i][0];**

**maximumprofits=maximumprofits+theweightsoftheobjects[i][1];**

**printf("%d of the object of weight %d is selected and the profits is %d\n",1, theweightsoftheobjects[i][0],theweightsoftheobjects[i][1]);**

**}**

**else{**

**maximumprofits=maximumprofits+((float)remainingcapacityoftheknapsack/theweightsoftheobjects[i][0])\*theweightsoftheobjects[i][1];**

**printf("%f of the object of weight %d is selected and the profits is %f\n",((float)remainingcapacityoftheknapsack/theweightsoftheobjects[i][0]), theweightsoftheobjects[i][0], ((float)remainingcapacityoftheknapsack/theweightsoftheobjects[i][0])\*theweightsoftheobjects[i][1]);**

**remainingcapacityoftheknapsack=0;**

**}**

**i=i+1;**

**}**

**printf("The maximum profits is %f",maximumprofits);**

**}**

