

## Fractional knapsack in C - AoA

```
#include<stdio.h>

int main()
{
    /* Provide input on sorted manner*/
    float weight[50], profit[50], ratio[50],totalprofit , capacity, temp;
    int i, j, n;
    printf("Enter number of items :");
    scanf("%d", &n);

    for(i=0;i<n;i++)
    {
        printf("\nEnter weight and profit for item[%d] : ", i);
        scanf("%f %f", &weight[i], &profit[i]);
    }

    printf("\nEnter the capacity of Knapsack : ");
    scanf("%f", &capacity);

    for(i=0; i<n; i++)
    {
        ratio[i] = profit[i]/weight[i];
    }

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

```

for(j=i+1; j<n; j++)
{
    if(ratio[i]<ratio[j])
    {
        temp = ratio[j];
        ratio[j] = ratio[i];
        ratio[i] = temp;

        temp = weight[j];
        weight[j] = weight[i];
        weight[i] =temp;

        temp = profit[j];
        profit[j] = profit [i];
        profit[i] = temp;
    }
}

printf("\nFractional Kanpsack problem using GD");
for(i=0; i<n; i++)
{
    if(weight[i] > capacity)
    {
        break;
    }
    else
    {
        totalprofit = totalprofit + profit[i];
    }
}

```

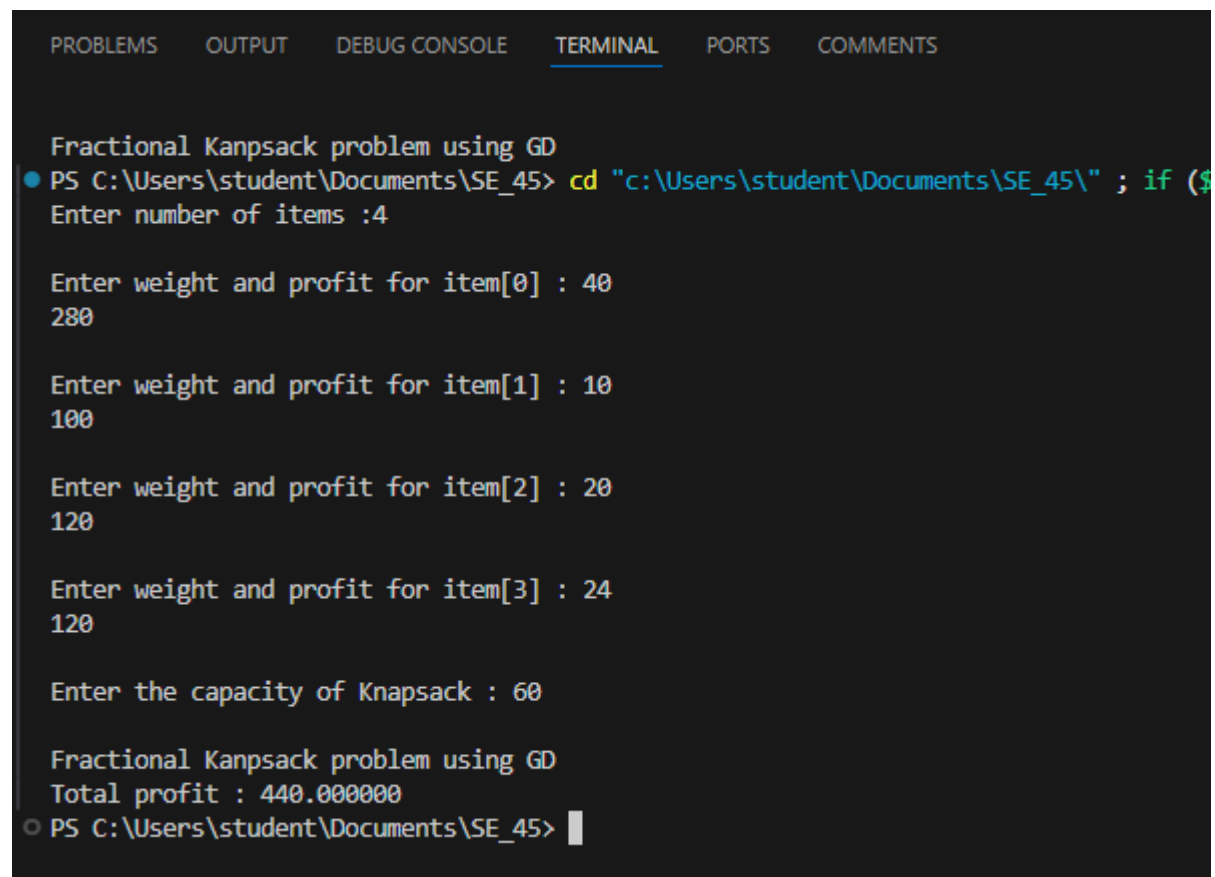
```

        capacity = capacity - weight[i];
    }
}

if(i<n)
{
    totalprofit = totalprofit + (ratio[i]*capacity);
    printf("\nTotal profit : %f ", totalprofit);
}
return 0;
}

```

Output



```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  COMMENTS

Fractional Knapsack problem using GD
● PS C:\Users\student\Documents\SE_45> cd "c:\Users\student\Documents\SE_45\" ; if ($?) {
Enter number of items :4

Enter weight and profit for item[0] : 40
280

Enter weight and profit for item[1] : 10
100

Enter weight and profit for item[2] : 20
120

Enter weight and profit for item[3] : 24
120

Enter the capacity of Knapsack : 60

Fractional Knapsack problem using GD
Total profit : 440.000000
○ PS C:\Users\student\Documents\SE_45>

```