

Program :

```
#include<stdio.h>

int main(){

int n;

printf("Enter total no. of objects: ");

scanf("%d", &n);


int m;

printf("Enter the value of m: ");

scanf("%d", &m);


int v[n];

printf("Enter the values: ");

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

    scanf("%d", &v[i]);

}


int w[n];

printf("Enter the weights: ");

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

    scanf("%d", &w[i]);

}


float f[n];


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

    f[i] = (float)v[i] / w[i];

}


for(int i = 0; i < n - 1; i++){

    for(int j = 0; j < n - i - 1; j++){
```

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        if(f[j] < f[j+1]){
            float temp = f[j];
            f[j] = f[j + 1];
            f[j+1] = temp;

            int tv = v[j];
            v[j] = v[j + 1];
            v[j+1] = tv;

            int tw = w[j];
            w[j] = w[j + 1];
            w[j+1] = tw;
        }
    }
}

```

```
float sp = 0;
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```
int sw = 0;
```

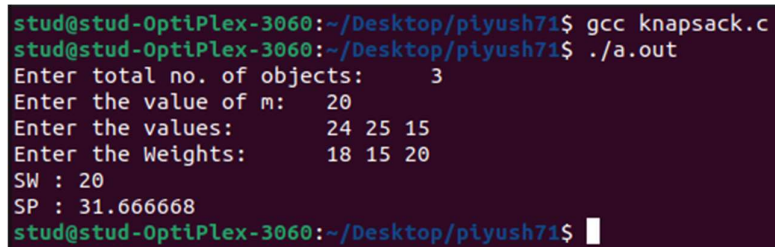
```

for(int i = 0; i < n; i++){
    int tempsw = sw + w[i];
    if(tempsw < m){
        sw = tempsw;
        sp = sp + v[i];
    }
    else if(tempsw == m){
        sw = tempsw;
        sp = sp + v[i];
        break;
    }
    else{
        float frac = (float)(m-sw) / (float)w[i];
        printf("%f\n\n", frac);
        sw = m;
    }
}

```

```
        sp = (float)sp + (float)(v[i] * frac);  
        break;  
    }  
}  
  
printf("SW : %d \n", sw);  
printf("SP : %f \n", sp);  
  
return 0;  
}
```

Output :



```
stud@stud-OptiPlex-3060:~/Desktop/piyush71$ gcc knapsack.c  
stud@stud-OptiPlex-3060:~/Desktop/piyush71$ ./a.out  
Enter total no. of objects:    3  
Enter the value of m:    20  
Enter the values:    24 25 15  
Enter the Weights:    18 15 20  
SW : 20  
SP : 31.666668  
stud@stud-OptiPlex-3060:~/Desktop/piyush71$
```