

EXP 9

23UAI313

```
#include<stdio.h>
```

```
int max(int a, int b) { return (a > b)? a : b; }
```

```
int knapSack(int W, int wt[], int val[], int n)
```

```
{
```

```
    int i, w;
```

```
    int K[n+1][W+1];
```

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

```
    {
```

```
        for (w = 0; w <= W; w++)
```

```
        {
```

```
            if (i==0 || w==0)
```

```
                K[i][w] = 0;
```

```
            else if (wt[i-1] <= w)
```

```
                K[i][w] = max(val[i-1] + K[i-1][w-wt[i-1]], K[i-1][w]);
```

```
            else
```

```
                K[i][w] = K[i-1][w];
```

```
        }
```

```
    }
```

```
    return K[n][W];
```

```
}
```

```
int main()
```

```
{
```

```
    int i, n, val[20], wt[20], W;
```

```
    printf("Enter number of items:");
```

```
    scanf("%d", &n);
```

```
    printf("Enter value and weight of items:\n");
```

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

```
scanf("%d%d", &val[i], &wt[i]);  
}  
  
printf("Enter size of knapsack:");  
scanf("%d", &W);  
  
printf("%d", knapSack(W, wt, val, n));  
return 0;  
}
```