

Program:

```
#include <stdio.h>
int max(int a, int b)
{
    return (a > b) ? a : b;
}

int knapSack(int KW, int wt[], int p[], int n)
{
    int i, w;
    int arr[n + 1][KW + 1];

    for (i = 0; i <= n; i++)
    {
        for (w = 0; w <= KW; w++)
        {
            if (i == 0 || w == 0)
            {
                arr[i][w] = 0;
            }
            else if (wt[i - 1] <= w)
            {
                arr[i][w] = max(p[i - 1] + arr[i - 1][w - wt[i - 1]], arr[i - 1][w]);
            }
            else
            {
                arr[i][w] = arr[i - 1][w];
            }
        }
    }
    return arr[n][KW];
}

int main()
{
    int n;
    printf("Enter the number of items: ");
    scanf("%d", &n);
    int wt[n], p[n];
    printf("Enter the value and weight of each item:\n");
```

```
for (int i = 0; i < n; i++)
{
    printf("Item %d - Value and Weight: ", i + 1);
    scanf("%d %d", &p[i], &wt[i]);
}

int w;
printf("Enter the knapsack weight: ");
scanf("%d", &w);

printf("Maximum value in knapsack = %d\n", knapSack(w, wt, p, n));

return 0;
}
```

Output:

```
Enter the number of items: 4
Enter the value and weight of each item:
Item 1 - Value and Weight: 2 3
Item 2 - Value and Weight: 3 4
Item 3 - Value and Weight: 4 5
Item 4 - Value and Weight: 1 6
Enter the knapsack weight: 8
Maximum value in knapsack = 6
```