

```

import java.util.Scanner;

public class Knapsack {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter the number of items:");
        int n = scanner.nextInt();

        int[] values = new int[n];
        int[] weights = new int[n];

        System.out.println("Enter the values of the items:");
        for (int i = 0; i < n; i++) {
            values[i] = scanner.nextInt();
        }

        System.out.println("Enter the weights of the items:");
        for (int i = 0; i < n; i++) {
            weights[i] = scanner.nextInt();
        }

        System.out.println("Enter the maximum weight capacity of the knapsack:");
        int W = scanner.nextInt();

        System.out.println("Choose an option:");
        System.out.println("1. Solve 0-1 Knapsack Problem");
        System.out.println("2. Exit");
        int choice = scanner.nextInt();

        if (choice == 1) {
            int maxValue = knapsack(values, weights, W);
            System.out.println("Maximum value in the knapsack: " + maxValue);
        }

        public static int knapsack(int[] values, int[] weights, int W) {
            int n = values.length;
            int[][] dp = new int[n + 1][W + 1];

            for (int i = 0; i <= n; i++) {
                for (int w = 0; w <= W; w++) {
                    if (i == 0 || w == 0) {
                        dp[i][w] = 0;
                    } else if (weights[i - 1] <= w) {
                        dp[i][w] = Math.max(values[i - 1] + dp[i - 1][w - weights[i - 1]], dp[i - 1][w]);
                    } else {
                        dp[i][w] = dp[i - 1][w];
                    }
                }
            }

            return dp[n][W];
        }
    }
}

```

Enter the number of items:

3

Enter the values of the items:

60 100 120

Enter the weights of the items:

10 20 30

Enter the maximum weight capacity of the knapsack:

50

Choose an option:

1. Solve 0-1 Knapsack Problem

2. Exit

1

Maximum value in the knapsack: 220