import java.util.Scanner;

public class DAA\_4 {

public static int knapsack(int weights[], int values[], int capacity) {

int n = weights.length;

int dp[][] = new int[n][capacity + 1];

for (int i = weights[0]; i <= capacity; i++) {

dp[0][i] = values[0];

}

for (int ind = 1; ind < n; ind++) {

for (int wt = 0; wt <= capacity; wt++) {

int notTake = dp[ind - 1][wt];

int take = Integer.MIN\_VALUE;

if (weights[ind] <= wt) {

take = values[ind] + dp[ind - 1][wt - weights[ind]];

}

dp[ind][wt] = Math.max(take, notTake);

}

}

return dp[n - 1][capacity];

}

public static void main(String[] args) {

// int values[] = { 60, 100, 120 };

// int weights[] = { 10, 20, 30 };

int capacity = 50;

Scanner in = new Scanner(System.in);

System.out.println("Enter total no of items: ");

int n = in.nextInt();

int values[] = new int[n];

int weights[] = new int[n];

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

System.out.println("Enter details of item " + (i + 1) + " : ");

System.out.println("enter value: ");

values[i] = in.nextInt();

System.out.println("enter weight: ");

weights[i] = in.nextInt();

}

int maxValue = knapsack(weights, values, capacity);

System.out.println("Maximum value that can be obtained = " + maxValue);

}

}