Apologies for the confusion, thank you for the second chance.

**A-18.4** Suppose you work for a major package shipping company, FedUP, as in the previous exercise, but suppose there is a new law that requires every truck to carry no more than *M* pounds, even if it has room for more boxes. Now the optimization problem is to use the fewest number of trucks possible to carry the *n* boxes across the country such that each truck is carrying at most *M* pounds. Describe a simple greedy algorithm for assigning boxes to trucks and show that your algorithm uses a number of trucks that is within a factor of 2 of the optimal number of trucks. You may assume that no box weighs more than *M* pounds.

*Answer:*

First the input- number of boxes N and weight of each box W (1), W (2), W (3) …. W(n) then the max weight allowed to carry by every truck M is inserted. Now, the sum is stored in temporary variable = W (1) + W (2) + … W (n). Next step is to check if sum is exactly divisible by maximum weight to be carried by truck ‘M’ if (temp%M) ==0. Then the result of diviliding temp and maximum weight is assigned to be carried by truck to res = temporary/M

Here, if tsum is not exactly divisible by maximum weight to be carried by truck i.e. temp%M! = 0 then res = temporary /M +1

Example:

3 boxes with weight W1 = 200, W2= 400, W3=400 and maximum weight to be carried = 500

Temporary = 200+400+400=1000

1000% 500 = 2

Res = 1000/500 =2