Question 2(Apples distribution)

\*Concept -> The concept used is greedy approach

\*Brief explanation of solution

* 1.Sum up the total weight of involved apples
* 2.Divide the weight among Ram, Shyam and Rahim as per amount distributed
* 3.Sort the apples array as per weight in increasing order
* 4.Make an array for each of Ram, Shyam and Rahim
* 5.Start putting apple in each of the person’s array and then mark that apple as true, depicting it has already been distributed
* 6.Substract the weight of apple put in person’s array to reduce remaining total weight and then continue to do the same with all apples.

\*Code solution in cpp:-

#include <iostream>

#include<bits/stdc++.h>

using namespace std;

int main(){

  vector<pair<int,bool>>apples;

    cout<<"Enter the number of apple you want to: ";

    int n;

    cin>>n;

    int total\_weight;

    for(int i=0;i<n;i++){

        cout<<"Enter the weight of apples"<<endl;

        int weight;

        total\_weight +=weight;

        cin>>weight;

        pair<int,bool> apple = make\_pair(weight,false);

        apples.push\_back(apple);

    }

    sort(apples.begin(), apples.end());

    int ram\_share = total\_weight \* 0.5;

    int shyam\_share = total\_weight \* 0.3;

    int rahim\_share = total\_weight \* 0.2;

    vector<int>ram\_count;

    vector<int>shyam\_count;

    vector<int>rahim\_count;

    for(int i=0;i<n;i++){

        if(apples[i].first <= ram\_share &&!apples[i].second){

            apples[i].second = true;

            ram\_share -= apples[i].first;

            ram\_count.push\_back(apples[i].first);

        }

    }

           for(int i=0;i<n;i++){

        if(apples[i].first <= shyam\_share &&!apples[i].second){

            apples[i].second = true;

            shyam\_share -= apples[i].first;

            shyam\_count.push\_back(apples[i].first);

        }

           }

           for(int i=0;i<n;i++){

        if(apples[i].first <= rahim\_share &&!apples[i].second){

            apples[i].second = true;

            rahim\_share -= apples[i].first;

            rahim\_count.push\_back(apples[i].first);

        }

       }

    for(int i=0;i<ram\_count.size();i++){

    cout<<ram\_count[i]<<" ";

    }

    cout<<endl;

  for(int i=0;i<shyam\_count.size();i++){

        cout<<shyam\_count[i]<<" ";

    }

    cout<<endl;

      for(int i=0;i<rahim\_count.size();i++){

        cout<<rahim\_count[i]<<" ";

    }

}