#include <stdio.h>

#define SIZE 7

void displaySubset(int subSet[], int size) {

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

printf("%d ", subSet[i]);

}

printf("\n");

}

void subsetSum(int set[], int subSet[], int n, int subSize, int total, int nodeCount ,int sum) {

if( total == sum) {

displaySubset(subSet, subSize);

if (subSize != 0)

subsetSum(set,subSet,n,subSize-2,total-set[nodeCount],nodeCount+1,sum);

return;

}else {

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

subSet[subSize] = set[i];

subsetSum(set,subSet,n,subSize+1,total+set[i],i+1,sum);

}

}

}

void findSubset(int set[], int size, int sum) {

int subSet[size];

subsetSum(set, subSet, size, 0, 0, 0, sum);

}

int main() {

int weights[] = {1, 9, 7, 5, 18, 12, 20, 15};

int size = SIZE;

findSubset(weights, size, 35);

return 0;

}