**New Banknote**

*(TCO19 SRM 756)*

In this problem we use the Euro currency. One euro equals 100 cents. All amounts in this problem will be in cents to avoid dealing with non-integer numbers.

Euro coins have the following denominations: 1, 2, 5, 10, 20, 50, 100, and 200 cents. Euro banknotes have the following denominations: 500, 1000, 2000, 5000, 10000, 20000, and 50000 cents.

There are rumors that the European Committee will soon introduce a new banknote worth newBanknote cents.

In this new monetary system, what will be the smallest number of coins and banknotes needed to pay exactly X cents?

You are given the int[] amountsToPay. For each X in amountsToPay answer the above question. Return a int[] containing the answers.

**Constraints**

- newBanknote will be between 1 and 2\*10^9, inclusive.

- amountsToPay will have between 1 and 50 elements, inclusive.

- Each element of amountsToPay will be between 1 and 2\*10^9, inclusive.

**Examples**

0)

4700

{53, 9400, 9401, 30000}

Returns: {3, 2, 3, 2 }

The new banknote is worth exactly 47 euro.

When paying 53 cents, the new banknote is useless. The optimal way uses three coins: 50 + 2 + 1.

When paying 94 euro, the optimal solution is to use two new banknotes.

When paying 94 euro and 1 cent, the optimal solution is to use two new banknotes and a 1-cent coin.

When paying 300 euro, the optimal solution is to use one 100-euro and one 200-euro banknote.

**1)**

1234

{1233, 1234, 1235}

Returns: {6, 1, 2 }

**2)**

1000

{1233, 100047}

Returns: {6, 6 }

The new banknote is utterly useless: we already have 10-euro banknotes. Thus, the answer for any amount is the same as when paying using regular Euro denominations only.

**Cinderella Girls**

*(TCO19 SRM 756)*

There are N girls auditioning for an idol competition. You are a junior producer of the competition. During the auditions you have evaluated the talent and the skill of each candidate. The results of these evaluations are given in the int[]s talent and skill: for each valid i, talent[i] is the amount of talent and skill[i] the amount of skill candidate i has shown.

Your task is to decide which girls advance to the second stage of the selection process. In order to do this, you came up with a simple rule: girl A will advance if and only if there is no other girl B such that B has both strictly more talent and strictly more skill than A.

Please calculate and return the number of girls who advance to the second stage.

**Constraints**

- N will be between 2 and 50, inclusive.

- talent will contain exactly N elements.

- skill will contain exactly N elements.

- Each element in talent will be between 1 and 10,000, inclusive.

- Each element in skill will be between 1 and 10,000, inclusive.

**Examples**

**0)**

{10,20,30}

{30,20,10}

Returns: 3

Every girl will be accepted.

**1)**

{10,20,30}

{10,20,30}

Returns: 1

In this case, girls 0 and 1 will not be accepted because girl 2 has more talent and more skill than each of the other two.

**2)**

{10,10,10}

{1,100,10000}

Returns: 3

Their skill scores differ significantly but their talent scores are the same so every girl will be invited to the second stage.

**3)**

{46,70,39,53,10,47,73,95,95,27}

{81,47,64,65,34,55,75,16,80,69}

Returns: 3