Hello, France

The budget was enough to get them to Frankfurt and they have some money left, but their final aim is to go to France, which means that they will need more finances. They've decided to make profit by buying items on discount from the Thrift Shop and selling them for a higher price. You must help them.

Create a program that calculates the profit after buying some items and selling them on a higher price. In order to fulfil that, you are going to need certain data - you will receive a **collection of items** and a **budget** in the following format:

`{type->price|type->price|type->price……|type->price}`

`{budget}`

The prices for each of the types **cannot exceed** a certain **price**, which is given bellow:

Type	Maximum Price
Clothes	50.00
Shoes	35.00
Accessories	20.50

If a **price** for a certain **item** is **higher than** the **maximum** price, **don't buy it**. Every time you **buy an item**, you have to **reduce the budget** with the value of **its price**. If you don't have enough money for it, you **can't buy it**. Buy **as much** items **as you can**.

You have to **increase** the price of **each of the items you have successfully bought with 40%.** Print the list with **the new prices** and **the profit** you will gain **from selling the items**. They need exactly **150$** for tickets for the train, so if their budget after selling the products is enough – print – **`"Hello, France!"`** and if not – **`"Time to go."`**

Input / Constraints

- **On the 1st line** you are going to receive the **items with their prices** in the format described above **– real numbers in the range [0.00……1000.00]**
- **On the 2nd line**, you are going to be given the **budget** – **a real number** in the range **[0.0….1000.0]**

Output

- Print the list with the bought item's new prices, rounded 2 digits after the decimal separator in the following format:

`"{price1} {price2} {price3} {price5}……{priceN}"`

- Print the profit, **rounded 2 digits** after the decimal separator in the following format:

`"Profit: {profit}"`

- If the money for tickets are enough, print: **`"Hello, France!"`** and if not – **`"Time to go."`**

Examples

Input	Output	Comments

Clothes->43.30|Shoes->25.25|Clothes->36.52|Clothes->20.90|Accessories->15.60 120	60.62 35.35 51.13 Profit: 42.03 Hello, France!	We start subtracting the valid prices from the budget: 120 – 43.40 = **76.7.** 76.7 – 25.25 = **51.45** 51.45 – 36.52 = **14.93** 14.93 is **less** than **20.90** and **15.60**, so we can't buy either of the last two. We must increase **each price** with 40% and the new prices are: **60.62 35.35 51.13.** The profit is **42.03** and their new budget will be – what is left of the budget - **14.93 + {sum of all newPrices}.** It is enough, so we print: **Hello, France!**
Shoes->41.20|Clothes->20.30|Accessories->40|Shoes->15.60|Shoes->33.30|Clothes->48.60 90	28.42 21.84 46.62 Profit: 27.68 Time to go.	