

Bank

Problem Description

SuperBank is opening a new branch in Singapore. They are giving high interest rate to attract more people to deposit in SuperBank.

Bob the Banker asks your help to create a program for managing customer's bank accounts. A bank customer can do the following operations:

1. Create a new bank account with an initial balance.
2. Deposit money to his/her account.
3. Withdraw money from his/her account.

The bank is giving an interest rate of $x\%$ per annum, and it is calculated on monthly basis as follows:

$$\text{interest} = \text{initial deposit} \times (x/12) \times \text{number of months elapsed}$$

Input

The first line contains a real number x , the interest rate (in %) per annum and an integer p , the period in months. It is followed by a sequence of operations (one operation each line), and terminated by "0". The query format will be "Create *name* x ", "Deposit *name* x ", or "Withdraw *name* x ", where *name* is the name of the customer and x is the amount of money. There will be at most 100 bank accounts and they are all created on the first month when the bank is opening.

Output

Print a single line containing the number of accounts registered in the bank, followed by the names of all account holders, and their final balance after p months (same order as the input). The final balance should be rounded to two decimal places.

Sample Input

```
13 12
Create Billy 2500
Create Charlie 1000
Create John 100.50
Withdraw Charlie 500
Deposit John 899.50
0
```

Sample Output

```
3
Billy 2825.00
Charlie 630.00
John 1013.07
```