

The Hunting Games

A group of friends have decided to participate in a game called "The Hunting Games". The first stage of the game is to gather some supplies. They have a list and your job is to help them follow it and make the needed calculations.

Write a program that calculates the needed provisions for a quest in the woods.

First you will receive **the days of the adventure**, **the count of the players** and the **group's energy**. Afterwards, you will receive the following **provisions per day for one person**:

- ✓ **Water**
- ✓ **Food**

The group calculates how many supplies they'd need for the adventure and take that much water and food.

Every day they chop wood and **lose a certain amount of energy**. For each of the days, you are going to receive the energy loss from chopping wood. The program should **end** if the energy reaches **0** or **less**.

Every second day they **drink water**, which **boosts their energy** with **5% of their current energy** and at the same **time drops their water supplies** by **30% of their current water**.

Every third day they **eat**, which **reduces their food supplies by the following amount**:

{currentFood} / {countOfPeople} and at the same time **raises** their group's **energy** by **10%**.

The chopping of wood, the drinking of water, and the eating happen in the order above.

If they have **enough energy** to finish the quest, print the following message:

"You are ready for the quest. You will be left with - {energyLevel} energy!"

If they **run out of energy** print the following message and the **food** and **water** they were left with **before** they ran out of energy:

"You will run out of energy. You will be left with {food} food and {water} water."

Input / Constraints

- On the 1st line, you are going to receive a number **N** - the days of the adventure – **an integer** in the range [1...100]
- On the 2nd line – the count of players – **an integer** in the range [0 – 1000]
- On the 3rd line - the group's energy – **a real number** in the range [1 - 50000]
- On the 4th line – water per day for one person – **a real number** [0.00 – 1000.00]
- On the 5th line – food per day for one person – **a real number** [0.00 – 1000.00]
- On the next **N** lines – one for each of the days – the amount of **energy loss** – **a real number** in the range [0.00 - 1000]
- You will **always** have **enough food** and **water**.

Output

- **"You are ready for the quest. You will be left with - {energyLevel} energy!"** – if they have enough energy

"You will run out of energy. You will be left with {food} food and {water} water."

- All of the real numbers should be **formatted** to the **second digit** after the decimal separator

Examples

Input	Output
10 7 5035.5 11.3 7.2 942.3 500.57 520.68 540.87 505.99 630.3 784.20 321.21 456.8 330	You are ready for the quest. You will be left with - 658.72 energy!
Comments	
<p>The days are 10 and the players are 7. The energy of the whole group is 5035.5. We receive the water and food and we can calculate the needed amount of both for the whole quest:</p> <p>$10 * 7 * 11.3$ – total water = 791</p> <p>$10 * 7 * 7.2$ – total food = 504</p> <p>Afterwards, for each of the days you have to calculate the energy loss. On each day you receive energy loss and you have to subtract it. On the first day it is:</p> <p>$5035.5 - 942.3 = 4093.2$</p> <p>On every second day we add the energy boost from the drank water, which is 5% of the current energy and subtract the amount from the total water. The first time we reach a second day, the energy will become 3772.26 and the water will become 553.7. The first time we reach a third day, we have to boost the energy with 10% and reduce the food supplies and the energy will become - 3576.74 and the food 432. Make all of the calculations and in the end, you must have 658.77 energy left and 132.94 water and 317.39 food left.</p>	

Input	Output
12	You will run out of energy. You will be left with 229.17 food and 118.59 water.
6	
4430	
9.8	
5.5	
620.3	
840.2	
960.1	
220	
340	
674	
365	
345.5	
212	
412.12	
258	
496	