# 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** | |
| 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:  **10 \* 7 \* 11.3 – total water = 791**  **10 \* 7 \* 7.2 – total food = 504**  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:  **5035.5 – 942.3 = 4093.2**  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. | |

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