# Pie Pursuit



*Get ready for the "Pie Pursuit" – a delightful journey where contestants indulge in a pie-eating frenzy. It will be a fun competition.* *Join us in this exciting adventure as contestants showcase their love for delicious treats and strive to emerge as the ultimate pie-eating champions!*

You will receive **two sequences on two separate lines**. Each sequence will consist of **integer values**,   
**separated by a single whitespace**.

The **first sequence** represents **contestants**, each value indicating the **total count of pieces of pie a contestant can consume**, while the **second sequence** represents the **pies**, signifying the **number of pieces each pie contains**.

## Contest Rules

* The competition continues **until no more pies** are left **or no more contestants** remain in the battle
* The contest kicks off with the **first contestant** facing the **last pie** in the sequence
* If the **contestant's pie-eating capacity** is **greater than or equal to the pie's size**, they manage to eat the entire pie, **subtracting the pie's value** (count of pie pieces)from **the contestant's value**(pie-eating capacity). The **pie is removed** from the collection.
  + If the contestant's **pie-eating** **capacity reaches 0**, bid them farewell from the contest (**remove the contestant** from the competition).
  + Otherwise, **move the satisfied contestant to the back of the lineup, with the remaining   
    pie-eating capacity**.
* If the **pie's size exceeds the contestant's pie-eating** **capacity**, the contestant consumes **as many pieces as possible**, **subtracting the eaten pieces** (contestant's capacity) from the pie's size.
  + The **pie remains in the sequence** with the value of pieces left.
  + If the **pie's size reaches 1 piece**, **remove the pie**, **adding the remaining piece to the next pie** in the sequence.
  + If this is the **last pie**, be careful, **you won’t be able to add a piece to the next pie. Just leave that last piece back in the sequence.**
  + Say goodbye to the contented contestant from the contest (**remove the contestant** from the competition).
* In the end:
  + If the **pies are over**, and **there are contestants left**, print on the console:   
    **"We will have to wait for more pies to be baked!**" and **the final state of the contestants' sequence on a separate line**. [*See the Examples at the End of the Document*](#Examples)
  + If **both the pies and contestants are over**, it means that we have a champion. Print on the console: **"We have a champion!"**
  + If the **contestants are over**, but **there are pies left**, print on the console:   
    **"Our contestants need to rest!"** and **the final state of the pie sequence on a separate line**. [*See the Examples at the End of the Document*](#Examples)

Let the Pie Pursuit unfold and discover who will be the ultimate champion!

## Input / Constraints

* On the **first line**, you will receive the integers, representing the **contestant's pie-eating capacity**, **separated** by a **single space**.
* On the **second line,** you will receive the integers, representing the **number of pieces each pie contains**, **separated** by a **single space**.

## Output

The following result should be **printed on the Console**, on **separate lines**:

* If the **pies are over**, and **there are contestants left**:
  + **"We will have to wait for more pies to be baked!**"
  + **The final state of the contestants' sequence:**

"**Contestants left: {contestant1}, {contestant2}, … {contestantn}**"

* If **both the pies and contestants are over**:
  + **"We have a champion!"**
* If the **contestants are over**, but **there are pies left**:
  + **"Our contestants need to rest!"**
  + **The final state of the pie sequence**
  + "**Pies left: {pie1}, {pie2}, … {pien}**"

## Examples

|  |  |  |
| --- | --- | --- |
| Input | Output | Comment |
| 5 8 4 6  3 7 2 9 | We will have to wait for more pies to be baked!  Contestants left: 2 | We take the first contestant (5) and the last pie (9). The contestant can eat only 5 pieces of pie, and there will be 4 pieces left. We remove the contestant and keep the 4 pieces in the sequence.  Now we have the following sequences:  8 4 6  3 7 2 4  The next contestant can eat all four pieces, and go at the back of the sequence, with the value of 4. We remove the pie, and we have the following sequences:  4 6 4  3 7 2  4 eats 2, and goes at the back with a value of 2:  6 4 2  3 7  The next contestant eats 6 pieces, and one is left to be added to the next pie:  4 2  4  The next contestant eats all 4 pieces and is unable to eat more. As reaching the value of zero, he quits the competition. The only contestant left is 2. |
| 4 6 8 10 12 16  16 12 10 8 6 4 | We have a champion! |  |
| 3 3 3 3 3  4 4 4 4 | Our contestants need to rest!  Pies left: 1 |  |