Squid Game - Find Your Room

Time Limit: 1 Second
Memory Limit: 2048 MB

Mattox started a Squid Game! As a kind (trapped) student in the CS491 class, you are invited (blindfolded) to the game!

In this round, the host is the benevolent Char, and the game is "Find Your Room"!

The rule of the game is as follows:

1. The game contains Q turns. The students will be placed in an open space with lots of rooms.
2. At the start of each turn, Char will shout out a number m_i.
3. Each student need to go in to one of the rooms numbered with $1, \ldots, m_i$ within a time limit.
4. The students will win the turn if the maximum and minimum number of students within the rooms does not differ by more than one.

You quickly realized that you have a way to always guarantee a win for the students!

The strategy is:

1. Before the first round, each of the N student will get a unique number $x_i \in \{1, \ldots, n\}$.
2. When a turn starts, and Char shout out the number m_i, the student numbered x_i will go to room $(x_i - 1)\ mod\ m_i + 1$.
3. Then it is guaranteed that you will win.

Unfortunately, Char also knows about this strategy. So in addition to the previous requirement, he gives each student a secret integer key. When a turn ends, he will choose a room number p_i, and randomly pick a student to compute the sum of all students' secret key in room p_i. If the student can't give the correct answer within the time limit, you will lose the game. Since you have a long time to prepare before the first turn start, can you find a way to fast track the calculation if you will adopt the strategy mentioned above?

Input

The first line of input contains two integers N and Q ($1 \leq N, Q \leq 10^5$), the number of students and the number of turns.

The second line contains N integers $a_1, \ldots, a_n$ ($1 \leq a_i \leq 10^9$), the secret key of the ith student.

The next Q lines each contains two integers m_i and p_i ($1 \leq m_i \leq N$, $1 \leq p_i \leq m_i$), the number of rooms and the room you will race to get the sum of secret key in room p_i.

Output

For each turn, output a single integer denoting the sum of secret key in room p_i.

Sample Inputs

```
5 2
1 2 3 4 5
3 1
2 2
```

Sample Outputs

```
5
6
```