

Birthday ranges

Implement a program in [Java](#), [Python](#) or [C++](#) that given a vector of people's birthdays (numbers in the range 0-365) and a vector of ranges (pairs of numbers in the range 0-365) produces a vector of the number of people with birthday in the specific range.

Input

The first line of the standard input will contain two integers: N - the number of people, and M - the number of ranges. The next line will contain N integers: the i-th integer on that line indicates the birthday of the i-th person. The following M lines will each contain two integer: the range of days for which you should check the number of birthdays in.

Output

For each of the M ranges, print a single line containing the number of people who have birthdays in that range.

Limits

```
1 <= N <= 100000
2 <= M <= 100000
```

Example

Input:

```
11 4
5 10 6 7 3 4 5 11 21 300 15
4 9
6 7
200 225
300 365
```

Output:

```
5
2
0
1
```