

Polynomial

Give polynomial $P(x) = a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x + a_0$ and the value of x , find the value of the polynomial.

Input

- + The first line contains the number of testcases T ($1 \leq T \leq 10^3$). Each testcase includes:
- + The value of n và x . ($n < 100$, $x < 1000$).
- + The coefficients: a_n, a_{n-1}, \dots, a_0 ($-1000 \leq a_i \leq 1000$).

Output

For each test case, output the value of the polynomial on one row.

Example

Input:

```
1
2 1
1 2 1
```

Output:

```
4
```