Problem D. Operator Precedence

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

Randias is facing his primary school homework:

Find a nonzero integer sequence a of length $2n$ satisfying

$$\begin{aligned}&(a_1 \times a_2)+(a_3 \times a_4)+ \quad \ldots \quad +(a_{2n-1} \times a_{2n})\\ &= a_1 \times(a_2 + a_3)\times(a_4 + a_5)\times \ldots \times(a_{2n-2} + a_{2n-1})\times a_{2n} \neq 0.\end{aligned}$$

In shorter form, $\sum_{i=1}^{n} a_{2i-1}a_{2i} = a_1a_{2n}\prod_{i=2}^{n}(a_{2i-2} + a_{2i-1}) \neq 0$.

Of course, Randias knows how to solve it. But he wants to give you a test. Can you solve the question above?

Input

Each test contains multiple test cases. The first line contains a single integer t ($1 \le t \le 10^5$) denoting the number of test cases.

For each test case, the only line contains a single integer n ($2 \le n \le 10^5$).

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output one line with $2n$ integers: $a_1, a_2, \ldots, a_{2n}$ ($1 \le |a_i| \le 10^{10}$).

It can be shown that the answer always exists.

If there are several possible answers, output any one of them.

Example

standard input	*standard output*
3 2 3 4	1 -3 -3 1 1 -10 6 6 -10 1 1 -15 10 -1 -1 10 -15 1