

nCr table



Jim is doing his discrete maths homework which requires him to repeatedly calculate nC_r (n choose r) for different values of n. Knowing that this is time consuming, he goes to his sister June for help. June, being a computer science student knows how to convert this into a computer program and generate the answers quickly. She tells him, by storing the lower values of nC_r (n choose r), one can calculate the higher values using a very simple formula.

If you are June, how will you calculate nC_r values for different values of n?

Since nC_r values will be large you have to calculate them modulo 10^9 .

Input Format

The first line contains the number of test cases T.

T lines follow each containing an integer n.

Output Format

For each n output the list of nC_0 to nC_n each separated by a single space in a new line. If the number is large, print only the last 9 digits. i.e. modulo 10^9

Constraints

$1 \leq T \leq 200$

$1 \leq n < 1000$

Sample Input

```
3
2
4
5
```

Sample Output

```
1 2 1
1 4 6 4 1
1 5 10 10 5 1
```

Explanation

For 2 we can check 2C_0 2C_1 and 2C_2 are 1, 2 and 1 respectively. The other inputs' answer follow similar pattern.