

A tournament of Games is organized by Ghazni. There are  $n$  gamers in a line, each starting with  $0$  points. Initially, the entire row of gamers is "selected". A round of the tournament proceeds as follows:

- Ghazni selects a random subarray of the currently "selected" part of the row. Each subarray has **equal probability** of being chosen, including the same currently "selected" part.
- He gives  $1$  point to each participant in the subarray.
- He sets this subarray as the new "selected" part of the row.

After  $k$  rounds of the tournament proceed, what is the expected amount of points of each participant?

It can be proven that the expected amount of points for the  $i$ th gamer can be represented as a fraction  $P_i/Q_i$  with  $Q_i \neq 0$  and  $\gcd(P_i, Q_i) = 1$ . Print  $n$  space-separated integers, the  $i$ th of which is  $P_i \cdot Q_i^{-1}$  modulo  $998244353$ .

It can be proved that  $Q^{-1}$  Modulo  $998244353$  exists under the following constraints

### Input Format

The first and only line of input contains two space-separated integers,  $n$  and  $k$

### Constraints

$$1 \leq n, k \leq 500$$

### Output Format

Print  $n$  space separated integers, the  $i$ th integer denoting the answer for the  $i$ th participant.

### Sample Input 0

```
2 2
```

### Sample Output 0

```
887328315 887328315
```

### Explanation 0

The tournament could proceed in the following ways:

$[1,2]$  is selected in the first round, and  $[1,2]$  is selected in the second round, occurring with probability  $1/9$ .  $[1,2]$  is selected in the first round, and  $[1,1]$  is selected in the second round, occurring with probability  $1/9$ .  $[1,2]$  is selected in the first round, and  $[2,2]$  is selected in the second round, occurring with probability  $1/9$ .  $[1,1]$  is selected in the first round, and  $[1,1]$  is selected in the second round, occurring with probability  $1/3$ .  $[2,2]$  is selected in the first round, and  $[2,2]$  is selected in the second round, occurring with probability  $1/3$ .

The output corresponds to expected values of  $11/9$  for both gamers.