

# Dividing Spaces

Into how many parts can  $k$  cuts using an  $n-1$  dimensional hyper-plane divide an  $n$ - dimensional hypercube?

*Hint: Experiment with  $n=2$ ,  $n=3$  find a pattern*

Eg:  $n=3$ ,  $k=5 \Rightarrow$  dividing a cube with 5 cuts using planes.

## Input

$T$ , number of test cases followed by  $T$  lines of ' $n$ ' and ' $k$ '.

## Output

The number of parts in separate lines for each of ' $T$ ' test cases.

## Example

**Input:**

2  
14 20  
6 23

**Output:**

1026876  
145499