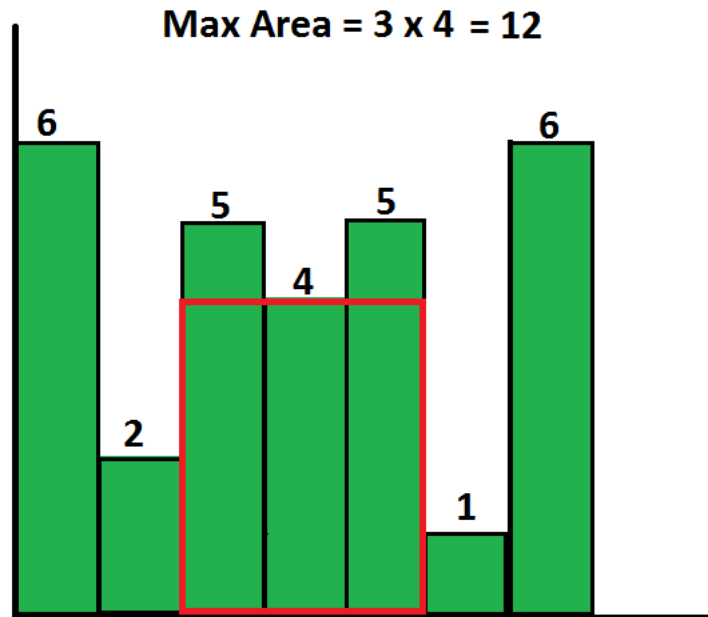


# Stock Market

Sherlock is a mad data scientist. Recently he drew a histogram using a dataset with size N from stock market showing the stock price on each day. Those days are consecutive. Can you help him find out the rectangle of the maximum area in the corresponding histogram?

Example:



## Input

The first line of input is an integer  $T$  ( $1 \leq T \leq 10$ ) representing the number of test cases. Each test case will follow the format shown below:

The first line: An integer  $N$  showing the number of days in the dataset.

The second line:  $N$  integers  $p_1, p_2, \dots, p_N$  showing stock prices on each day.

( $1 \leq N \leq 100000$ ,  $1 \leq p_i \leq 100000$ ).

## Output

For each case, print a single line containing the maximum area of the rectangle in the histogram.

Sample Input	Sample Output
2 6 3 4 5 2 3 8 7 6 2 5 4 5 1 6	12 12

Explanation for the sample 2:

We will choose consecutive days with price  $\{5\ 4\ 5\}$  to get the max area 12 as in the figure.

**Tips:** the result may be bigger than the range of `int`, you may consider using **long** instead of **int**.