



# Inter University Programming Contest

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## Save Gotham

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### Problem statement

Bane wants to destroy the city by planting a security code bomb at Gotham tower. Bane is overconfident about his smartness and under estimated the Batman. He challenged Batman to defuse the bomb and provided him some numbers with a hint that the security code of the bomb is the product of the numbers that lie between **Lth** largest number and **Rth** largest number in the given sequence (**Lth** largest number and **Rth** largest number are inclusive).

Find the Security Code '**n**' of the bomb in order to save the city.

### Input :

The first line contain '**p**' the number of test cases.

The first line of each test case contains '**n**' i.e. the total numbers given by the Bane.

The second line of each test case contains an array of those **n** numbers.

The third line of each test case contains '**L**' and '**R**'.

### Output :

For each test case output is the product modulo  $10^9+9$ .

### Constraints :

$1 \leq p \leq 1000$

$1 \leq n \leq 10^3$

$1 \leq a[i] \leq 10^4$

$1 \leq L \leq R \leq n$

**Sample Input** ([Plaintext Link](#))

```
2
3
9 2 5
3 3
6
1 4 7 6 9 3
5 6
```

**Sample Output** ([Plaintext Link](#))

```
9
378
```

**Explanation**

In second sample,  $l = 5$  and  $r = 6$ .

The 5th largest number is 7 and 6th largest number is 9.

So, output is 378.

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Time Limit: 1 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Scoring: Score is assigned when all testcases pass.

Allowed languages: C, C++, Clojure, Go, Haskell, C#, Java, Objective-C, Perl, PHP, Python, Ruby

[Load Code Editor](#) You can submit code after loading editor.

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User	Result	Time	Lang
Vaibhav ...		0.4433	C++
Pulkit S...	100	0.5884	C++
Shivansh...	100	0.5643	C++
Thatikun...	100	0.5382	C++
Prateek ...	100	0.4182	C++
Nikhil K...		0.5462	C++
Nikunj J...	100	0.4192	C++
Pranshul...	100	0.4217	C++
Prateek ...		0.4133	C++
Nikhil K...		0.59	C++
Rajat De...	100	0.4025	C++

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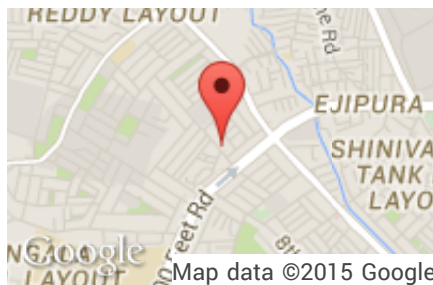
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