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Racing Horses ✓

Problem code: HORSES

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Chef is very fond of horses. He enjoys watching them race. As expected, he has a stable full of horses. He, along with his friends, goes to his stable during the weekends to watch a few of these horses race. Chef wants his friends to enjoy the race and so he wants the race to be close. This can happen only if the horses are comparable on their skill i.e. the difference in their skills is less.

There are N horses in the stable. The skill of the horse i is represented by an integer $S[i]$. The Chef needs to pick 2 horses for the race such that the difference in their skills is *minimum*. This way, he would be able to host a very interesting race. Your task is to help him do this and report the minimum difference that is possible between 2 horses in the race.

Input:

First line of the input file contains a single integer T , the number of test cases.

Every test case starts with a line containing the integer N .

The next line contains N space separated integers where the i -th integer is $S[i]$.

Output:

For each test case, output a single line containing the minimum difference that is possible.

Constraints:

$1 \leq T \leq 10$

$2 \leq N \leq 5000$

$1 \leq S[i] \leq 1000000000$

Example:

Input:

```
1
5
4 9 1 32 13
```

Output:

```
3
```

Explanation: The minimum difference can be achieved if we pick horses with skills 1 and 4 for the race.

Author: vamsi_kavala

Tester: laycourse

Editorial: <http://discuss.codechef.com/problems/HORSES>

Tags: sep12 sorting vamsi_kavala

Date Added: 2-07-2012

Time Limit: 3 sec

Source Limit: 50000 Bytes

Languages:

ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYTH, PYTH 3.1.2, RUBY, SCALA, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC

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CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

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Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

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