

# Commander-in-Chief

A rainy Sunday afternoon. What should Lea and her friends do? They wanted to go tightrope walking between two mountain summits, but this is not going to happen with rain pouring down on them, and making the rope slippery and all. So, they decide to stay in and dust off an old warfare strategy board game they played a lot when they were younger. Epic battles between huge armies, invading continents, conquering new worlds. Though, all of this is only possible for the best players. And Lea really does want to be one of those players. Roughly explained, the game is about stationing armies on different regions on a map, and letting them fight against opposing armies from a neighbouring region in order to try to conquer that region.

As far as she can remember, the best strategy for her was to subdivide each army into smaller squadrons and letting each of them fight on a different battleground. However, the real strategic trick in this game was that each of these squadrons should be of the same size, even if they belong to different armies. To maximise Lea's probability to conquer the world, the squadrons should be as big as possible, and no troops should be left behind without a squadron. Luckily, Lea has time to calculate this squadron size during the other players' turns.

## Input

The first line of the input contains an integer  $t$ .  $t$  test cases follow, each of them separated by a blank line.

Each test case starts with a line containing an integer  $n$ , the number of armies Lea commands. The next line contains  $n$  space-separated integers  $a_1 \dots a_n$  denoting the sizes of the  $n$  armies.

## Output

For each test case, output one line containing "Case # $i$ :  $x$ " where  $i$  is its number, starting at 1, and  $x$  is the biggest possible squadron size as described above. Each line of the output should end with a line break.

## Constraints

- $1 \leq t \leq 500$
- $2 \leq n \leq 20$
- $1 \leq a_i \leq 10^9$  for all  $1 \leq i \leq n$

### Sample Input 1

```
2
3
12 6 21

4
24 7 12 18
```

### Sample Output 1

```
Case #1: 3
Case #2: 1
```

**Sample Input 2**

```
6
5
35 19 37 11 8

2
48 48

3
44 41 26

3
33 44 33

5
9 18 45 36 36

3
29 29 29
```

**Sample Output 2**

```
Case #1: 1
Case #2: 48
Case #3: 1
Case #4: 11
Case #5: 9
Case #6: 29
```