Minimum Divisibility Set | Problem Code: **MDIVSET**

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Read problem statements in **Hindi**, **Bengali**, **Mandarin Chinese**, **Russian**, and **Vietnamese** as well.

Consider any two sets of integers strictly larger than 1, denoted by P and Q. The set P is said to be *divisible* by Q if each integer in P is divisible by at least one (not necessarily the same for each of them) integer in Q.

You are given a set $A = \{A_1, A_2, \ldots, A_N\}$, where $A_i \leq C$ for each valid i (note that C does not necessarily equal $\max(A)$). Find any set $B = \{B_1, B_2, \ldots, B_M\}$ such that:

- A is divisible by B
- $2 \leq B_i \leq C$ for each valid i
- M is the smallest positive integer such that there is at least one set satisfying the previous two conditions

If there are multiple answers, you may find any one of them.

Input

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains two space-separated integers N and C.
- The second line contains N distinct space-separated integers $A_1, A_2, \ldots, A_N$.

Output

For each test case, print two lines. The first of these lines should contain a single integer M. The second line should contain M space-separated integers $B_1, B_2, \ldots, B_M$ satisfying the given conditions.

Constraints

- $1 \leq T \leq 1,000$
- $1 \leq N < C \leq 7,500$
- $2 \leq A_i \leq C$ for each valid i
- the sum of C over all test cases does not exceed 10^5

Subtasks

Subtask #1 (15 points): $C \leq 50$

Subtask #2 (15 points):

- $C \leq 1,500$
- there are at most 10 test cases where $C > 750$
- it is guaranteed that $M \leq 2$

Subtask #3 (30 points):

- $C \leq 1,500$
- there are at most 10 test cases where $C > 750$

Subtask #4 (40 points): there is at most 1 test case where $C > 3,000$

Example Input

```
2
5 30
8 5 25 27 20
5 35
34 28 25 14 35
```

Example Output

```
3
4  5  9
2
2  5
```

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Time Limit:	2 secs
Source Limit:	50000 Bytes
Languages:	CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYPY, PYP3, TEXT, CPP17, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, kotlin, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, R, CAML, rust, ASM, FORT, FS, LISP clisp, SQL, swift, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, COB, SCM chicken, SCM qobi, ST, NEM, SQLQ

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