University of Scranton
Computing Sciences Department
29th Annual High School Programming Contest (2019)

Practice Problem 1: List of Divisors

Develop a program that, given a nonzero integer, displays it, followed by a list of all its positive integer divisors, in increasing order, followed by –in parentheses– a count of those divisors.

Input: The first line contains a positive integer n indicating how many input values appear on subsequent lines. Each of the next n lines contains a single nonzero integer.

Output: For each nonzero integer provided as input, display it, followed by a colon, followed by the list of its positive integers, in increasing order, followed by its number of divisors in parentheses. (See below for proper format.)

```
Sample input:
-------------
4
5
-36
100
48345
```

```
Resultant output:
-----------------
5: 1 5 (2)
-36: 1 2 3 4 6 9 12 18 36 (9)
100: 1 2 4 5 10 20 25 50 100 (9)
48345: 1 3 5 11 15 33 55 165 293 879 1465 3223 4395 9669 16115 48345 (16)
```

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Practice Problem 2: Minimum and Maximum of Groups

Develop a program that, given as input a sequence of integers whose members are to be interpreted as "groups" separated by occurrences of zero, prints the members of each group as well as its minimum and maximum.

Input: The input data is a sequence of integers on one or more lines. An occurrence of 0 indicates a boundary between two groups. Two 0's in a row signals end-of-input.

Output: For each group, print its members, its minimum, its maximum, and a blank line, following the format exemplified in the sample output below.

```
Sample input:
-------------
34 -4 87 12 0 14 2 5 -8 0 4 36
135 24
0 14 9 0 18 0 0


Resultant output:
-----------------
Group: 34 -4 87 12
Min is -4
Max is 87

Group: 14 2 5 -8
Min is -8
Max is 14

Group: 4 36 135 24
Min is 4
Max is 135

Group: 14 9
Min is 9
Max is 14

Group: 18
Min is 18
Max is 18
```