

6407 Clock Splitter

An analogue clock has the first twelve natural numbers placed in an equally spaced fashion in a clockwise direction on its face. It is possible to draw one line across this regular clock such that the sum of the numbers on both sides of the line are equal, as shown in figure A.

It is not possible to draw such a line for a clock with the first five natural numbers on its face. However it is possible to draw a line such that the sum of the numbers on both sides of the line differ by one, as shown in figure B.

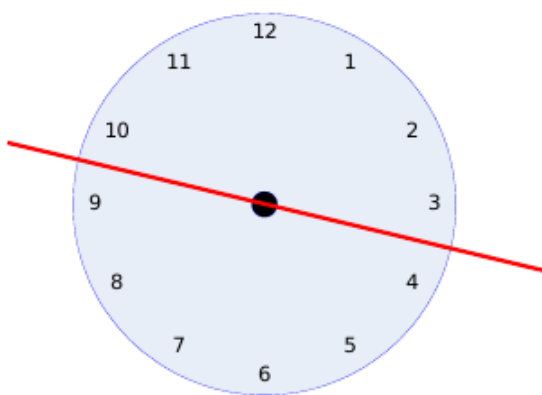


Figure A

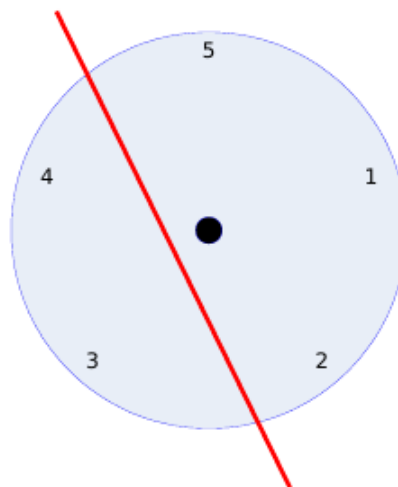


Figure B

Your task is to write a program to find where the line can be drawn for a clock with the first N natural numbers such that the sum of the numbers on both sides of the line are as close as possible to each other.

For some values of N , there will be more than one possible solution. Your program must report only the line with the smallest starting number.

Input

The input contains a number of test cases with one input value N per case, $2 \leq N \leq 100000$, which is the largest value on the clock face.

A value of zero (0) on a line by itself indicates the end of input and should not be processed.

Output

The output consists of a single line, for each test case, which contains two integers separated by a single space. The integers represent the smallest number followed by the largest number, in the clockwise direction, on the same side of the splitting line.

Sample Input

```
12
5
13
0
```

Sample Output

```
4 9
3 4
1 9
```