**Siena College’s 35th Annual High School Programming Contest**

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##### **March 31, 2023**

###### Gold Problem #4: Funny Lottery

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Background Information: Your favorite band is coming to perform in a city near you and your high school has been given two free tickets. The student council decides to use an interesting lottery procedure to determine the two students who will receive the free tickets. The procedure is as follows:

* Every student is assigned an integer from 1 to N where N is the total number of students participating in the lottery.
* The students stand in a large circle in numerical order.
* The principal rolls a hundred sided die to determine the elimination number. Call this number K.
* The principal counts to the Kth student starting with student 1. The Kth student is eliminated and leaves the circle.
* The principal continues counting and eliminating every Kth student in the circle until only two students remain. These two students win the tickets.

For example, if there are only 8 students and the principal rolls a 2 for the elimination number K. Student 2 is the first one eliminated followed in order by students 4, 6, 8, 3, and 7. Students 1 and 5 win the tickets.

Write a program that inputs the number of students and the elimination number and outputs the two ticket winners.

###### Programming Problem:

Input:  Integers N and K with 3 ≤ N ≤ 10,000 and 1 ≤ K ≤ 100, each on a separate line.

Output: The numbers in ascending order for the two ticket winners.

###### Example 1: Input: 8 Example 4: Input: 5

###### 2 7

###### Output:  1 5 Output: 3 4

###### Example 2: Input: 10 Example 5: Input: 500

3 7

###### Output:  4 10 Output:  400 451

###### Example 3: Input: 99 Example 6: Input: 1000

###### 1 47

###### Output:  98 99 Output: 96 513