AVAILABLE LESSONS:

Lesson 1
Iterations

Lesson 2
Arrays

Lesson 3
Time Complexity

Lesson 4
Counting Elements

Lesson 5
Prefix Sums

Lesson 6
Sorting

Lesson 7
Stacks and Queues

Lesson 8
Leader

Lesson 9
Maximum slice problem

Lesson 10
Prime and composite numbers

Lesson 11

PAINLESS

ChocolatesByNumbers

START

There are N chocolates in a circle. Count the number of chocolates you will eat.

Programming language: C++

Two positive integers N and M are given. Integer N represents the number of chocolates arranged in a circle, numbered from 0 to N − 1.

You start to eat the chocolates. After eating a chocolate you leave only a wrapper.

You begin with eating chocolate number 0. Then you omit the next M − 1 chocolates or wrappers on the circle, and eat the following one.

More precisely, if you ate chocolate number X, then you will next eat the chocolate with number (X + M) modulo N (remainder of division).

You stop eating when you encounter an empty wrapper.

For example, given integers N = 10 and M = 4. You will eat the following chocolates: 0, 4, 8, 2, 6.

The goal is to count the number of chocolates that you will eat, following the above rules.

Write a function:

```
int solution(int N, int M);
```

that, given two positive integers N and M, returns the number of chocolates that you will eat.

For example, given integers N = 10 and M = 4. the function should return 5, as explained above.

Assume that:

- N and M are integers within the range [1..1,000,000,000].

Sieve of Eratosthenes

Lesson 12
Euclidean algorithm

Lesson 13
Fibonacci numbers

Lesson 14
Binary search algorithm

Lesson 15
Caterpillar method

Lesson 16
Greedy algorithms

Lesson 17
Dynamic programming

Lesson 90
Tasks from Indeed Prime 2015 challenge

Lesson 91
Tasks from Indeed Prime 2016 challenge

Lesson 92
Tasks from Indeed Prime 2016 College Coders challenge

Lesson 99

Complexity:

- expected worst-case time complexity is O(log(N+M));
- expected worst-case space complexity is O(log(N+M)).

Future training