

1195. Fizz Buzz Multithreaded

Description

You have the four functions:

- `printFizz` that prints the word `"fizz"` to the console,
- `printBuzz` that prints the word `"buzz"` to the console,
- `printFizzBuzz` that prints the word `"fizzbuzz"` to the console, and
- `printNumber` that prints a given integer to the console.

You are given an instance of the class `FizzBuzz` that has four functions: `fizz`, `buzz`, `fizzbuzz` and `number`. The same instance of `FizzBuzz` will be passed to four different threads:

- Thread A:** calls `fizz()` that should output the word `"fizz"`.
- Thread B:** calls `buzz()` that should output the word `"buzz"`.
- Thread C:** calls `fizzbuzz()` that should output the word `"fizzbuzz"`.
- Thread D:** calls `number()` that should only output the integers.

Modify the given class to output the series `[1, 2, "fizz", 4, "buzz", ...]` where the `ith` token (**1-indexed**) of the series is:

- `"fizzbuzz"` if `i` is divisible by `3` and `5`,
- `"fizz"` if `i` is divisible by `3` and not `5`,
- `"buzz"` if `i` is divisible by `5` and not `3`, or
- `i` if `i` is not divisible by `3` or `5`.

Implement the `FizzBuzz` class:

- `FizzBuzz(int n)` Initializes the object with the number `n` that represents the length of the sequence that should be printed.
- `void fizz(printFizz)` Calls `printFizz` to output `"fizz"`.
- `void buzz(printBuzz)` Calls `printBuzz` to output `"buzz"`.
- `void fizzbuzz(printFizzBuzz)` Calls `printFizzBuzz` to output `"fizzbuzz"`.
- `void number(printNumber)` Calls `printnumber` to output the numbers.

Example 1:

Input: `n = 15`
Output: `[1,2,"fizz",4,"buzz","fizz",7,8,"fizz","buzz",11,"fizz",13,14,"fizzbuzz"]`

Example 2:

Input: `n = 5`
Output: `[1,2,"fizz",4,"buzz"]`

Constraints:

- `1 <= n <= 50`

