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This program accepts strings that can only be uppercase right after the string "Input:" is typed. However, there is a strict way of entering input. If the string encounters a tilde, it leaves the rest of the string the way it is. Also, the input cannot have any spaces otherwise the program will say that there is an error.

What bar function does is that it checks if the index value is prime by first checking if the number is greater than 1. If the number is greater than 1 it will check the remainder of the value when you divide by 2. Then it will increment the divisor until it finds a value that gives no remainder. If the divisor ends up being the same number as the dividend then the number is prime. Foo checks if lowercasing is needed, and if it is a prime number index, the letter turns into lowercase. If the index value is not prime and is odd, the character remains unchanged. The main method calls the two methods and outputs the results.

This program outputs a combination/mix of lowercase and uppercase characters, which clearly depend on the input. The first case is the actual manipulation of the string. If there is a space between two strings in the input it gives an error for incorrect number of arguments. If there is no "Input:" in the beginning of the string then the program will error for having incorrect format.

The Big-O would be $O(n)$ because it goes through each index in the string making it dependent on the length of the string n . The space complexity also depends on n .