**AI-LAB – ASSIGNMENT#2**

**NAME: ABDULLAH**

**ROLL NO: SU92-BSAIM-F24-002**

**SECTION: BSAI-3A**

FizzBuzz with Rule #5 (Previous + New Number)

# Introduction

FizzBuzz is a common programming exercise where numbers are counted starting from 1. If a number is divisible by 3, 'Fizz' is said instead of the number. If a number is divisible by 5, 'Buzz' is said instead. If a number is divisible by both 3 and 5, 'Fizz Buzz' is said.

# New Rule (Rule #5)

In this modified version, a new rule is introduced:  
Instead of directly applying FizzBuzz rules to the number spoken by the computer, we first add the previous computer number and the current computer number. The FizzBuzz rules are then applied to this sum.

# Step-by-Step Explanation

* Step 1: The game starts with the computer saying the number 1. Since there is no previous number, the user says nothing.
* Step 2: The computer says the next number (for example, 2). Now we add the previous number (1) and the current number (2), which equals 3. Since 3 is divisible by 3, the user says 'Fizz'.
* Step 3: The computer says another number (for example, 7). We add the previous number (2) and the current number (7), which equals 9. Since 9 is divisible by 3, the user again says 'Fizz'.
* Step 4: This process continues for each new number. At every step, we calculate (previous number + current number) and then apply the FizzBuzz rules to that sum.

# Example Walkthrough

• Computer says 1 → User says nothing  
• Computer says 2 → (1+2=3) → User says 'Fizz'  
• Computer says 7 → (2+7=9) → User says 'Fizz'  
• Computer says 4 → (7+4=11) → User says 11  
• Computer says 10 → (4+10=14) → User says 14  
• Computer says 5 → (10+5=15) → User says 'Fizz Buzz'

# Automating the Process

If we want to continue this process for the first 100 numbers:  
1. The computer would say numbers from 1 to 100 in order.  
2. At each step, the sum of the previous and current numbers is calculated.  
3. The FizzBuzz rules are applied to that sum.  
4. The result is either 'Fizz', 'Buzz', 'Fizz Buzz', or the number itself.