

*Using Recursion; take two numbers in from the user (a human) and add them together then separate the least significant digit and add it the remaining digits and so on until you have a single digit answer.*

*EX:  $87345 \Rightarrow 8734+5 = 8739 \Rightarrow 873+9 = 882 \Rightarrow 88 + 2 = 90 \Rightarrow 9+0 = 9$*

## **Requirements**

### **Functional Requirements**

1. The program must ask for 2 inputs from the user.
2. The program must store each input from the user in variables.
3. The program must take the summation of the 2 variables.
4. The program must take the least significant digit of the summation and add it to the most significant digit of the summation.
5. The program must loop and continue this process until the summation is less than 10, non-inclusive.
6. The program must return the final summation.

### **Mandatory Non-Functional Requirements**

1. The program must respond to user input within a consistent amount of time.
2. The program must clearly display the final summation.

### **Optional Non-Functional Requirements**

1. The game may print out each summation in the loop along with the final summation.

## **Design**

1. C# and Raptor
2. Variables
  - a. nums[1]
    - i. First user input
  - b. nums[2]
    - i. Second user input
  - c. numSum
    - i. Summation of first and second user input
  - d. numToString

- i. Conversion of numSum from an integer to a string
  - e. leastSigString
    - i. Least significant digit of numToString
  - f. restOfString
    - i. Remainder of numToString after removing the least significant digit
3. Methods
- a. addLeastSig()
    - i. Takes numSum and converts it to numToString, does all of the logic