```
direct answer
                                                                           rule following
                            input:
                                                                    2. Loop Through Each Digit
                                                                                                         ```total=digit1+digit2+carrv```
                            Follow the code step by step to
input:
                                                                    ```while num1 or num2:```
                                                                                                         total = digit1+digit2+carry =
                            answer the question:
59+13=
                                                                    2.1 check the stop criterion
                                                                                                         9+3+0 = 12
                            [5, 9]+[1, 3]=
                                                                    num1 = [5,9]
                                                                                                         ```result.insert(0,total%10)```
output:
                            def sum_digit_by_digit(num1, num2):
  num2 = [1,3]
   result = []
                               result=[]
72
  bool(num1) = True
   total%10 = 12%10 = 2
                               carry=0
   result = \lceil 2 \rceil
  bool(num2) = True
                                while num1 or num2:
                                                                                                         ```carrv=total//10```
                                   digit1=num1.pop() if num1 else 0
                                                                    num1 or num2 = True
                                   digit2=num2.pop() if num2 else 0
                                                                                                         carry = 12//10 = 1
                                                                    enter the loop
    scratchpad
                                   total=digit1+digit2+carry
                                                                                                         2.3 back to the start of the loop
                                                                    2.2 one iteration
                                   result.insert(0,total%10)
                                                                    ```digit1=num1.pop() if num1 else 0```
input:
                                   carry=total//10
  num1 = [5,9]
   3. Check Remaining Carry
59+13=
                               if carry:
                                                                                                         ```if carry: result.insert(0,carry)```
                                                                    bool(num1) = True
                                   result.insert(0,carry)
                                                                                                         result = [7,2]
                               return result
                                                                    num1.pop()
output:
                                                                                                         carrv = 0
                                                                    num1 = \lceil 5 \rceil
59+13, , C:0
                                                                                                         bool(carry) = False
                            output:
                                                                    digit1 = 9
# added 9+3+0=2
                            num1 = [5,9]
                                                                    ```digit2=num2.pop() if num2 else 0```
   pass
5+1, 2, C:1
                            num2 = [1,3]
  num2 = [1,3]
   result = [7,2]
# added 5+1+1=7
   4. Return Result
                            1. Initialize Result and Carry
  bool(num2) = True
+, 72, C:0
                                                                                                         ```return result```
                            result = []
                                                                    num2.pop()
                                                                                                         result = [7,2]
                                                                    num2 = \lceil 1 \rceil
                            carry = 0
72
                                                                    digit2 = 3
```