HW12/src/HW12.java

```java
/*
Name: Hunter Poole
Date: 4/29/25
HW #: 12
Source Code: HW12.java
Action: Takes two ints from the user as strings. Calls a function
        to turn those strings into integer arrays. Then, calls
        a function to display those two arrays. Another function
        will add the arrays together. Then displays the sum.
        Loops until user quits via 'n' or 'N'
*/

import java.util.Scanner;

public class HW12
{
    public static void main(String[] args)
    {
        char Choice = 'n';
        String UserString;
        int[] LargeIntOne = new int[20];
        int[] LargeIntTwo = new int[20];
        int[] SumOfLargeInts = new int[20];

        do
        {
            ClearArray(LargeIntOne);
            ClearArray(LargeIntTwo);
            ClearArray(SumOfLargeInts);

            Scanner Input = new Scanner(System.in);
            System.out.print("Please enter first number --> ");
            UserString = Input.nextLine().trim();

            StringToIntArray(LargeIntOne, UserString);

            System.out.print("Please enter second number --> ");
            UserString = Input.nextLine().trim();

            StringToIntArray(LargeIntTwo, UserString);

            DisplayAnArray(LargeIntOne);
            DisplayAnArray(LargeIntTwo);

            AddTwoArrays(LargeIntOne, LargeIntTwo, SumOfLargeInts);

            System.out.println("-----------------------------");
```

```
48              DisplayAnArray(SumOfLargeInts);
49
50              System.out.printf("%n%s","Continue 'Y' or 'N', response --> ");
51              Choice = Character.toLowerCase(Input.next().charAt(0));
52
53          } while (Choice != 'n');
54      }
55
56
57  /*
58  Action: Clears an integer array (Sets all values to 0)
59  Parameters: int Array[]
60  Returns: void
61  Precondition: Array is of size > 0.
62  */
63
64      static void ClearArray (int Array[])
65      {
66          for (int i = 0; i < Array.length; i++)
67          {
68              Array[i] = 0;
69          }
70      }
71
72
73  /*
74  Action: Fills an integer array using a provided string of integers, taking only
75          the integers from the string that will fit in the array. Puts the string
76          at the back of the array. Keeps leading 0s. Non-numeric characters are
77          treated as 0s.
78  Parameters: int Array[], String GivenString
79  Returns: void
80  Precondition: Array is initialized / Array is of size > 0.
81                Same conditions for String.
82  */
83
84      static void StringToIntArray (int Array[], String GivenString)
85      {
86          int LengthOfString = GivenString.length();
87          int LengthOfArray = Array.length;
88          int Start = Math.max(0, LengthOfArray - LengthOfString);
89
90          for (int i = 0; i < Math.min(LengthOfArray, LengthOfString); i++)
91          {
92              int Index = Start + i;
93
94              if (Index >= 0 && Index < LengthOfArray)
95              {
96                  if (GivenString.charAt(i) >= '0' && GivenString.charAt(i) <= '9')
```

```
97                  {
98                      Array[Index] = GivenString.charAt(i) - '0';
99                  }
100                 else
101                 {
102                     Array[Index] = 0;
103                 }
104             }
105         }
106     }
107
108 /*
109 Action: Displays an integer array all on one line, no spaces or other formatting.
110 Parameters: int Array[]
111 Returns: void
112 Precondition: Array is initialized / Array is of size > 0.
113 */
114
115     static void DisplayAnArray (int Array[])
116     {
117         for (int i = 0; i < Array.length; i++)
118         {
119             System.out.print(Array[i]);
120         }
121
122         System.out.println();
123     }
124
125 /*
126 Action: For two integer arrays: Adds the value of each index of the second
127         array to the value of each index of the first array.
128 Parameters: int ArrayOne[], int ArrayTwo[]
129 Returns: void
130 Precondition: Both arrays are initialized / Arrays are of size > 0.
131 */
132
133     static void AddTwoArrays (int ArrayOne[], int ArrayTwo[], int SumArray[])
134     {
135
136         for (int i = 0; i < ArrayOne.length; i ++)
137         {
138             SumArray[i] = ArrayOne[i];
139         }
140
141         for (int i = SumArray.length - 1; i >= 0; i--)
142         {
143             if (SumArray[i] + ArrayTwo[i] >= 10 && i > 0)
144             {
145                 SumArray[i - 1] += 1;
```

```
                SumArray[i] = (SumArray[i] + ArrayTwo[i]) % 10;
            }
            else
            {
                SumArray[i] += ArrayTwo[i];
            }
        }
    }
}
/*
Please enter first number --> 8764
Please enter second number --> 98
00000000000000008764
00000000000000000098
------------------------------
00000000000000008862

Continue 'Y' or 'N', response --> Sure
Please enter first number --> 1500
Please enter second number --> 559
00000000000000001500
00000000000000000559
------------------------------
00000000000000002059

Continue 'Y' or 'N', response --> 12
Please enter first number --> SOUP! 12345
Please enter second number --> 12345 SOUP!
00000000000000012345
00000000012345000000
------------------------------
00000000012345012345

Continue 'Y' or 'N', response -->                                                no
*/

/*
Please enter first number -->          33333333332222222222
Please enter second number --> 666666666633333333337777777778888888888 <- 10x of
                                  each. 7s and everything beyond will be cut off.
33333333332222222222
66666666663333333333
------------------------------
99999999995555555555

Continue 'Y' or 'N', response --> No I'm okay, but thank you
*/

/*
```

```
Please enter first number --> 99999999999999999999
Please enter second number --> 99999999999999999999
99999999999999999999
99999999999999999999
------------------------------
199999999999999999998

Continue 'Y' or 'N', response --> Go fish!
Please enter first number -->
Please enter second number -->
00000000000000000000
00000000000000000000
------------------------------
00000000000000000000

Continue 'Y' or 'N', response -->

f
Please enter first number -->
*/
```