Java Week 9 : Q5

Write suitable code to develop **a 2D Flip-Flop Array with dimension 5 × 5, which replaces all input elements with values 0 by 1 and 1 by 0.** An example is shown below:

INPUT:

```
00001
00001
00001
00001
00001
```

●UTPUT:

```
11110
11110
11110
11110
11110
```

Note the following points carefully:
1. Here, the input must contain only ● and 1.
2. The input and output array size must be of dimension 5 × 5.
3. Flip-Flop: If 0 then 1 and vice-versa.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	11111 10001 10001 10001 11111	00000\n 01110\n 01110\n 01110\n 00000	00000\n 01110\n 01110\n 01110\n 00000\n	Passed

The due date for submitting this assignment has passed.
1 out of 1 tests passed.
You scored 100.0/100.

Assignment submitted on 2020-11-10, 23:00 IST
Your last recorded submission was :

```java
1  import java.util.Scanner;
2  public class Question95{
3      public static void main(String args[]){
4          Scanner sc = new Scanner(System.in);
5  // Declare the 5X5 2D array to store the input
6
7  char original[][]= new char[5][5];
8
9          // Input 2D Array using Scanner Class and check data validity
10         for(int line=0;line<5; line++){
11             String input = sc.nextLine();
12             char seq[] = input.toCharArray();
13             if(seq.length==5){
14                 for(int i=0;i<5;i++){
15                     if(seq[i]=='0' || seq[i]=='1'){
16                         original[line][i]=seq[i];
17                         if(line==4 && i==4)
18                             flipflop(original);
19                     }
20                     else{
21                         System.out.print("Only 0 and 1 supported.");
22                         break;
23                     }
24                 }
25             }else{
26                 System.out.print("Invalid length");
27                 break;
28             }
29
30         }
31     }
32     static void flipflop(char[][] flip){
33         // Flip-Flop Operation
34         for(int i=0; i<5;i++){
35             for(int j=0; j<5;j++){
36                 if(flip[i][j]=='1')
37                     flip[i][j]='0';
38                 else
39                     flip[i][j]='1';
40             }
41         }
42
43         // Output the 2D FlipFlopped Array
44         for(int i=0; i<5;i++){
45             for(int j=0; j<5;j++){
46                 System.out.print(flip[i][j]);
47             }
48             System.out.println();
49         }
50     } // The main() ends here
51 } // The main class ends here
```

Sample solutions (Provided by instructor)

```java
1  import java.util.Scanner;
2  public class Question95{
3      public static void main(String args[]){
4          Scanner sc = new Scanner(System.in);
5  // Declare the 5X5 2D array to store the input
6          char original[][]= new char[5][5];
```

Course outline

How does an NPTEL online course work?

Week 0 : Assignment 0

Week 1 :

Week 2 :

Week 3 :

Week 4 :

Week 5 :

Week 6 :

Week 7 :

Week 8 :

Week 9 :

- ● Lecture 41 : Demonstration-XV
- ● Lecture 42 : AWT Programming--III
- ● Lecture 43 : Swing—I
- ● Lecture 44 : Swing—II
- ● Lecture 45 : Demonstration-XVI
- ● Quiz: Assignment 9
- ● Java Week 9 : Q1
- ● Java Week 9 : Q2
- ● Java Week 9 : Q3
- ● Java Week 9 : Q4
- ● Java Week 9 : Q5
- ● Feedback For Week 9

Week 10 :

Week 11 :

Week 12 :

Solution

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Text Transcripts

Programming Test - (April 11 - 10AM - 12 PM)

Programming Test - (April 11 - 8PM - 10 PM)

```java
 7
 8            // Input 2D Array using Scanner Class and check data validity
 9            for(int line=0;line<5; line++){
10                String input = sc.nextLine();
11                char seq[] = input.toCharArray();
12                if(seq.length==5){
13                    for(int i=0;i<5;i++){
14                        if(seq[i]=='0' || seq[i]=='1'){
15                            original[line][i]=seq[i];
16                            if(line==4 && i==4)
17                                flipflop(original);
18                        }
19                        else{
20                            System.out.print("Only 0 and 1 supported.");
21                            break;
22                        }
23                    }
24                }else{
25                    System.out.print("Invalid length");
26                    break;
27                }
28
29            }
30        }
31    static void flipflop(char[][] flip){
32        // Flip-Flop Operation
33        for(int i=0; i<5;i++){
34            for(int j=0; j<5;j++){
35                if(flip[i][j]=='1')
36                    flip[i][j]='0';
37                else
38                    flip[i][j]='1';
39            }
40        }
41
42        // Output the 2D FlipFlopped Array
43        for(int i=0; i<5;i++){
44            for(int j=0; j<5;j++){
45                System.out.print(flip[i][j]);
46            }
47            System.out.println();
48        }
49    } // The main() ends here
50 } // The main class ends here
```