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## Java Week 9 : Q4

**Due on 2020-04-03, 23:59 IST**

A program needs to be developed which can **mirror reflect any  $5 \times 5$  2D character array into its side-by-side reflection**. Write suitable code to achieve this transformation as shown below:

**INPUT:**

```
OOXOO
OOXOO
XXXOO
OOOOO
XOABC
```

**OUTPUT:**

```
OOXOO
OOXOO
OOXXX
OOOOO
CBAOX
```

**Note the following points carefully:**

1. Here, instead of X and O any character may be present.
2. The input and output array size must be of dimension  $5 \times 5$  and nothing else.
3. Only side-by-side reflection should be performed i.e. ABC || CBA.

**Private Test cases used for evaluation**

Input	Expected Output	Actual Output	Status
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### Course outline

#### How does an NPTEL online course work?

**Week 0 :**
**Week 1 :**
**Week 2 :**
**Week 3 :**
**Week 4 :**
**Week 5 :**
**Week 6 :**
**Week 7 :**
**Week 8 :**
**Week 9 :**

● Lecture 41 :  
Demonstration-

XV (unit? unit=10&lesson=55)					
<ul style="list-style-type: none"> <li>Lecture 42 : AWT Programming-- III (unit? unit=10&amp;lesson=56)</li> </ul>	Test Case 1	<pre> X00 0X 0X0 X0 00X 00 000 00 X00 00           </pre>	<pre> X000X\n 0X0X0\n 00X00\n 00000\n 0000X           </pre>	<pre> X000X\n 0X0X0\n 00X00\n 00000\n 0000X\n           </pre>	Passed
<ul style="list-style-type: none"> <li>Lecture 43 : Swing—I (unit? unit=10&amp;lesson=57)</li> <li>Lecture 44 : Swing—II (unit? unit=10&amp;lesson=58)</li> <li>Lecture 45 : Demonstration- XVI (unit? unit=10&amp;lesson=59)</li> </ul>	Test Case 2	<pre> 000 X0 00X 00 0X0 00 00X 00 000 X0           </pre>	<pre> 0X000\n 00X00\n 000X0\n 00X00\n 0X000           </pre>	<pre> 0X000\n 00X00\n 000X0\n 00X00\n 0X000\n           </pre>	Passed
<ul style="list-style-type: none"> <li>Quiz : Assignment 9 (assessment? name=104)</li> </ul>					
<ul style="list-style-type: none"> <li>Java Week 9 : Q1 (/noc20_cs08/progassignment? name=167)</li> </ul>	<p>The due date for submitting this assignment has passed.</p> <p>2 out of 2 tests passed.</p> <p>You scored 100.0/100.</p> <p><b>Assignment submitted on 2020-04-03, 21:36 IST</b></p> <p>Your last recorded submission was :</p>				
<ul style="list-style-type: none"> <li>Java Week 9 : Q2 (/noc20_cs08/progassignment? name=168)</li> </ul>	<pre> 1 import java.util.Scanner; 2 public class Question94{ 3     public static void main(String args[]){ 4         Scanner sc = new Scanner(System.in); 5         // Declare necessary variables 6 7         // Input 5x5 2D Array using Scanner Class 8 9         // Perform the reflection operation 10 11        // Output 5x5 2D Reflection Array 12 13        // Declaring 5x5 2D char array to store input 14        char original[][]= new char[5][5]; 15 16        // Declaring 5x5 2D char array to store reflection 17        char reflection[][]= new char[5][5]; 18 19        // Input 2D Array using Scanner Class 20        for(int line=0;line&lt;5; line++){ 21            String input = sc.nextLine(); 22            char seq[] = input.toCharArray(); 23            if(seq.length==5){ 24                for(int i=0;i&lt;5;i++){ 25                    original[line][i]=seq[i]; 26                } 27            } 28        } 29 30        // Performing the reflection operation 31        for(int i=0; i&lt;5;i++){ 32            for(int j=0; j&lt;5;j++){ 33                reflection[i][j]=original[i][4-j];           </pre>				
<ul style="list-style-type: none"> <li>Java Week 9 : Q3 (/noc20_cs08/progassignment? name=169)</li> </ul>					
<ul style="list-style-type: none"> <li>Java Week 9 : Q4 (/noc20_cs08/progassignment? name=170)</li> </ul>					
<ul style="list-style-type: none"> <li>Java Week 9 : Q5 (/noc20_cs08/progassignment? name=171)</li> </ul>					
<ul style="list-style-type: none"> <li>Feedback For Week 9 (unit? unit=10&amp;lesson=178)</li> </ul>					
<b>Week 10 :</b>					

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## Assignment Solution

## Books

## Live Interactive Session

```

34     }
35     }
36
37     // Output the 2D Reflection Array
38     for(int i=0; i<5;i++){
39         for(int j=0; j<5;j++){
40             System.out.print(reflection[i][j]);
41         }
42         System.out.println();
43     }
44 } // The main() method ends here
45 } // The main class ends here

```

Sample solutions (Provided by instructor)

Select the Language . Java ▼

```

1  import java.util.Scanner;
2  public class Question94{
3      public static void main(String args[]){
4          Scanner sc = new Scanner(System.in);
5          // Declaring 5x5 2D char array to store input
6          char original[][]= new char[5][5];
7
8          // Declaring 5x5 2D char array to store reflection
9          char reflection[][]= new char[5][5];
10
11         // Input 2D Array using Scanner Class
12         for(int line=0;line<5; line++){
13             String input = sc.nextLine();
14             char seq[] = input.toCharArray();
15             if(seq.length==5){
16                 for(int i=0;i<5;i++){
17                     original[line][i]=seq[i];
18                 }
19             }
20         }
21
22         // Performing the reflection operation
23         for(int i=0; i<5;i++){
24             for(int j=0; j<5;j++){
25                 reflection[i][j]=original[i][4-j];
26             }
27         }
28
29         // Output the 2D Reflection Array
30         for(int i=0; i<5;i++){
31             for(int j=0; j<5;j++){
32                 System.out.print(reflection[i][j]);
33             }
34             System.out.println();
35         }
36     } // The main() method ends here
37 } // The main class ends here

```

