Hands-on Activity
Arrays

Objective:

At the end of the exercise, the students should be able to:

- Create arrays in a program;
- Access array elements;
- Perform array operations; and
- Use the *Array* class.

Materials:

- NetBeans IDE 8.2
- Java Development Kit (JDK) 8

Instructions:

1. Create a folder named *LastName_FirstName* (ex. Diaz_Jess) on your local drive.
2. Using NetBeans IDE, create a new project.
3. Name the class as **SeatReservation** and save the project in your folder
4. Write a simple bus seat reservation program. The bus has 10 rows, with 4 seats in each row. The program should perform the following:

   Step 1. The program should ask the user to enter what row and seat number to reserve. Indicate an 'X' mark if the seat is reserved.

   Step 2. Repeat *Step 1;* the program will stop until the user enters a negative number.
5. Compile and execute the program.
6. Debug syntax and logical errors, if there are any in the program.
7. Inform your instructor once you are done.
8. The following is the example output:

```
Bus Seat Reservation:
        Col 1   Col 2   Col 3   Col 4
Row 1   |*      *       *       *
Row 2   |*      *       *       *
Row 3   |*      *       *       *
Row 4   |*      *       *       *
Row 5   |*      *       *       *
Row 6   |*      *       *       *
Row 7   |*      *       *       *
Row 8   |*      *       *       *
Row 9   |*      *       *       *
Row 10  |*      *       *       *
Enter row and column number to reserve separated by space (Enter a negative number to exit): 4 3
```

Figure 1. First seat reservation sample output

```
Bus Seat Reservation:
        Col 1   Col 2   Col 3   Col 4
Row 1   |*      *       *       *
Row 2   |*      *       *       *
Row 3   |*      *       *       *
Row 4   |*      *       X       *
Row 5   |*      *       *       *
Row 6   |*      *       *       *
Row 7   |*      *       *       *
Row 8   |*      *       *       *
Row 9   |*      *       *       *
Row 10  |*      *       *       *
Enter row and column number to reserve separated by space (Enter a negative number to exit): 4 4
```

Figure 2. Second seat reservation sample output

```
Bus Seat Reservation:
        Col 1   Col 2   Col 3   Col 4
Row 1   |*      *       *       *
Row 2   |*      *       *       *
Row 3   |*      *       *       *
Row 4   |*      *       X       X
Row 5   |*      *       *       *
Row 6   |*      *       *       *
Row 7   |*      *       *       *
Row 8   |*      *       *       *
Row 9   |*      *       *       *
Row 10  |*      *       *       *
Enter row and column number to reserve separated by space (Enter a negative number to exit): -1
Program exit!
```

Figure 3. Sample output of reserved seat and exit

GRADING RUBRIC:

CRITERIA	PERFORMANCE INDICATORS	POINTS
Correctness	The code produces the expected result.	30
Logic	The code meets the specifications of the problem.	30
Efficiency	The code is concise without sacrificing correctness and logic.	20
Syntax	The code adheres to the rules of the programming language.	20
Total		**100**