Bluegrass Community and Technical College
CIT 149: Java I

Two-Dimension Arrays

Lottery - Pick 3

Read all of the instructions before beginning.

Creation of an Array (8 points)

This assignment is a modification to the assignment you created last week. If you use your program from last week as a beginning point for this week, copy your file and rename the class (program) so that you still have the original solution.

This week you will demonstrate your knowledge of two-dimensional arrays:

Create a **two dimensional** array that will hold Pick 3 lottery numbers for 20 people.

For this week, **each number generated should fall within the range of 0-9 (we are simulating a Pick 3 lottery and not a Powerball example).** You will again use a random number generator for the lottery numbers.

The first few rows of the two-dimensional array would be similar to the following:

	First number	Second number	Third number
Player 1	0	9	4
Player 2	1	7	7
Player 3	4	4	0

You can see the rows represent a player and the columns represent the 3 distinct lottery numbers for the players. This is an illustration of the array only. The headings you see above are not stored in the array. The array will have 3 columns and 20 rows of integers.

Display the Array (5 points)

Create code which will display the entire array (similar to what you see above).

Check for Winners (7 points)

- Generate winning numbers (3 numbers – one for each of the lottery balls).
- Compare these numbers to each player's numbers. For this program, a person wins if the first lottery balls match (the player's and the winning number) , the second lottery balls match, and the third lottery balls match (order matters - -this will be easier).
- Update the output so that the message "We have a winner!" is displayed on a line if that person's numbers match the winning lottery numbers. You output could be similar to:

```
Welcome to Pick 3!  You have to play to win!

     The winning Pick 3 numbers are:  3   4   4

     Here are the players for today:

     Player 1:      3    5    9
     Player 2:      4    1    1
     Player 3:      3    4    4    *** We have a winner ***
     Player 4:      8    2    1
          …
     Player 20:     5    5    1

Number of winners in this round of 20 people:  1
```

- At the end of the output, display the numbers of winners you found for the 20 people.
- The program should be allowed to run another set of 20 lottery numbers and winning balls.

NOTE: When testing this, you may have to run several sets of 20 players to see a winner.

Zip all of your .java files and submit for grading.