

## AP Computer Science

### Two-Dimensional Array Lab

Mystery:

Which one is larger: the Smallest of the largest (SL) and the largest of the smallest (LS) ?

The following code segment can be used to read in the data from an external input file under the same directory of the java program file to instantiate to a two-dimensional array.

```
import java.io.*;
import java.util.*;

public static void main(String[ ] args) throws FileNotFoundException {

    double[ ][ ] data = new double[8][10];
    Scanner scan = new Scanner(System.in);
    System.out.print("Enter input data file name: ");
    String inputFileNames = scan.next( );
    File inputFile = new File(inputFileNames);
    Scanner inputFileStream = new Scanner(inputFile);

    for (int i = 0; i < data.length; i++)
        for (int j = 0; j < data[0].length; j++)
            data[i][j] = inputFileStream.nextDouble( );

    // your logic and algorithms in the following
}
```

After the two-dimensional array is initialized from the data of the input data file, you need to find the largest values in each row and then find the smallest of these row largest values (SL of rows). You also need to find the smallest of the each column and then find the largest of these column smallest values (LS of columns). You then need to compare

SL of rows      and      LS of columns

You need to run different input data files for a few times and finally conclude that you either against or for of the above mystery.