Practice 8

1. **Sales** Consider the following table representing sales of each fruit over five days:

	Mon	**Tue**	**Wed**	**Thu**	**Fri**
Apple	16.50	47.25	145.75	117.50	116.15
Guava	40.00	77.60	95.65	29.50	52.65
Orange	10.75	61.20	134.15	72.60	131.45
Grapes	12.00	150.85	29.95	30.35	47.85

   Write a program that displays the total sale on each day, and displays the day with the highest sale.

2. **Smallest number** Write the following method that returns the location of the smallest element in a two-dimensional array.

```
public static int[] locateSmallest(double[][] a)
```

   The return value is a one-dimensional array that contains two elements. These two elements indicate the row and column indices of the smallest element in the two-dimensional array. Write a test program that prompts the user to enter a two-dimensional array and displays the location of the smallest element in the array.

   Here is a sample run:

```
Enter the number of rows and columns of the array: 3 4
Enter the array:
23.5 35 2 10
4.5 3 45 3.5
35 44 5.5 9.6
The location of the smallest element is at (0, 2)
```

3. **Matrix** Consider the following 4×4 matrix:

$$\begin{matrix} 2 & 33 & 4 & 1 \\ 3 & 44 & 3 & 12 \\ 56 & 7 & 8 & 86 \\ 5 & 2 & 4 & 21 \end{matrix}$$

   Write a program that calculates and displays the following (You may write one void function per part):

   a. The maximum value in the primary diagonal

   b. The minimum value in the secondary diagonal

c. The sum of the values **above** the primary diagonal

d. The sum of the values **below** the primary diagonal

4. **Matrix addition** Write a program that prompts the user to enter the values of two 3×3 matrices and displays the sum of the two matrices. Here is a sample run:

```
Enter values for the first 3*3 matrix:
1 2 3
4 5 6
7 8 9
Enter values for the second 3*3 matrix:
1 1 2
1 0 1
2 2 3
Sum of the matrices is
2   3   5
5   5   7
9   10  12
```