***8.26** (*Row sorting*) Implement the following method to sort the rows in a two-dimensional array. A new array is returned and the original array is intact.

```
public static double[][] sortRows(double[][] m)
```

Write a test program that prompts the user to enter a 3 × 3 matrix of double values and displays a new row-sorted matrix. Here is a sample run:

```
Enter a 3-by-3 matrix row by row:
0.15 0.875 0.375 Enter
0.55 0.005 0.225 Enter
0.30 0.12 0.4 Enter

The row-sorted array is
0.15 0.375 0.875
0.005 0.225 0.55
0.12 0.30 0.4
```

8.28 (*Strictly identical arrays*) The two-dimensional arrays `m1` and `m2` are *strictly identical* if their corresponding elements are equal. Write a method that returns `true` if `m1` and `m2` are strictly identical, using the following header:

```
public static boolean equals(int[][] m1, int[][] m2)
```

Write a test program that prompts the user to enter two 3 × 3 arrays of integers and displays whether the two are strictly identical. Here are the sample runs.

```
Enter list1: 51 22 25 6 1 4 24 54 6 Enter
Enter list2: 51 22 25 6 1 4 24 54 6 Enter
The two arrays are strictly identical
```

```
Enter list1: 51 25 22 6 1 4 24 54 6 Enter
Enter list2: 51 22 25 6 1 4 24 54 6 Enter
The two arrays are not strictly identical
```

***9.6** (*Stopwatch*) Design a class named `StopWatch`. The class contains:

- Private data fields `startTime` and `endTime` with getter methods.
- A no-arg constructor that initializes `startTime` with the current time.
- A method named `start()` that resets the `startTime` to the current time.
- A method named `stop()` that sets the `endTime` to the current time.
- A method named `getElapsedTime()` that returns the elapsed time for the stopwatch in milliseconds.

Draw the UML diagram for the class and then implement the class. Write a test program that measures the execution time of sorting 100,000 numbers using selection sort.

9.7 (*The `Account` class*) Design a class named `Account` that contains:

- A private `int` data field named `id` for the account (default `0`).
- A private `double` data field named `balance` for the account (default `0`).
- A private `double` data field named `annualInterestRate` that stores the current interest rate (default `0`). Assume all accounts have the same interest rate.
- A private `Date` data field named `dateCreated` that stores the date when the account was created.
- A no-arg constructor that creates a default account.
- A constructor that creates an account with the specified id and initial balance.
- The accessor and mutator methods for `id`, `balance`, and `annualInterestRate`.
- The accessor method for `dateCreated`.
- A method named `getMonthlyInterestRate()` that returns the monthly interest rate.
- A method named `getMonthlyInterest()` that returns the monthly interest.
- A method named `withdraw` that withdraws a specified amount from the account.
- A method named `deposit` that deposits a specified amount to the account.

Draw the UML diagram for the class and then implement the class. (*Hint*: The method `getMonthlyInterest()` is to return monthly interest, not the interest rate. Monthly interest is `balance * monthlyInterestRate`. `monthlyInterestRate` is `annualInterestRate / 12`. Note that `annualInterestRate` is a percentage, e.g., like 4.5%. You need to divide it by 100.)

Write a test program that creates an `Account` object with an account ID of 1122, a balance of $20,000, and an annual interest rate of 4.5%. Use the `withdraw` method to withdraw $2,500, use the `deposit` method to deposit $3,000, and print the balance, the monthly interest, and the date when this account was created.

**9.13 (*The `Location` class*) Design a class named `Location` for locating a maximal value and its location in a two-dimensional array. The class contains public data fields `row`, `column`, and `maxValue` that store the maximal value and its indices in a two-dimensional array with `row` and `column` as `int` types and `maxValue` as a `double` type.

Write the following method that returns the location of the largest element in a two-dimensional array:

```
public static Location locateLargest(double[][] a)
```

The return value is an instance of `Location`. Write a test program that prompts the user to enter a two-dimensional array and displays the location of the largest element in the array. Here is a sample run:

```
Enter the number of rows and columns in the array:  3 4 Enter
Enter the array:
23.5 35 2 10 Enter
4.5 3 45 3.5 Enter
35 44 5.5 9.6 Enter
The location of the largest element is 45 at (1, 2)
```