***11.9** (*Largest rows and columns*) Write a program that randomly fills in 0s and 1s into an n-by-n matrix, prints the matrix, and finds the rows and columns with the most 1s. (*Hint*: Use two `ArrayList`s to store the row and column indices with the most 1s.) Here is a sample run of the program:

```
Enter the array size n: 4 ↵
The random array is
0011
0011
1101
1010
The largest row index: 2
The largest column index: 2, 3
```

11.11 (*Sort `ArrayList`*) Write the following method that sorts an `ArrayList` of numbers:

```
public static void sort(ArrayList<Integer> list)
```

Write a test program that prompts the user to enter 5 numbers, stores them in an array list, and displays them in increasing order.

11.12 (*Sum `ArrayList`*) Write the following method that returns the sum of all numbers in an `ArrayList`:

```
public static double sum(ArrayList<Double> list)
```

Write a test program that prompts the user to enter 5 numbers, stores them in an array list, and displays their sum.

***11.13** (*Remove duplicates*) Write a method that removes the duplicate elements from an array list of integers using the following header:

```
public static void removeDuplicate(ArrayList<Integer> list)
```

Write a test program that prompts the user to enter 10 integers to a list and displays the distinct integers separated by exactly one space. Here is a sample run:

```
Enter ten integers: 34 5 3 5 6 4 33 2 2 4 ↵
The distinct integers are 34 5 3 6 4 33 2
```

11.14 (*Combine two lists*) Write a method that returns the union of two array lists of integers using the following header:

```
public static ArrayList<Integer> union(
  ArrayList<Integer> list1, ArrayList<Integer> list2)
```

For example, the union of two array lists {2, 3, 1, 5} and {3, 4, 6} is {2, 3, 1, 5, 3, 4, 6}. Write a test program that prompts the user to enter two lists, each with five integers, and displays their union. The numbers are separated by exactly one space in the output. Here is a sample run: