

Exercise 06

- 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 **ArrayLists** 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
```

Exercise 06

11.19 (*Bin packing using first fit*) The bin packing problem is to pack the objects of various weights into containers. Assume each container can hold a maximum of 10 pounds. The program uses an algorithm that places an object into the first bin in which it would fit. Your program should prompt the user to enter the total number of objects and the weight of each object. The program displays the total number of containers needed to pack the objects and the contents of each container. Here is a sample run of the program:

```
Enter the number of objects: 6
Enter the weights of the objects: 7 5 2 3 5 8
Container 1 contains objects with weight 7 2
Container 2 contains objects with weight 5 3
Container 3 contains objects with weight 5
Container 4 contains objects with weight 8
```

Does this program produce an optimal solution, that is, finding the minimum number of containers to pack the objects?