1. Image processing

```java
private GImage flipHorizontal(GImage image) {
    int[][] array = image.getPixelArray();
    int width = array[0].length;
    int height = array.length;
    for (int row = 0; row < height; row++) {
        for (int p1 = 0; p1 < width / 2; p1++) {
            int p2 = width - p1 - 1;
            int temp = array[row][p1];
            array[row][p1] = array[row][p2];
            array[row][p2] = temp;
        }
    }
    return new GImage(array);
}
```

Solution for Problem #2 Name Counts on back of page.
/**
 * File: CountNames.java
 * ---------------------
 * This program shows an example of using a HashMap. It reads a
 * list of names from the user and list out how many times each name
 * appeared in the list.
 */

import acm.program.*;
import java.util.*;

public class CountNames extends ConsoleProgram {

  public void run() {
    HashMap<String,Integer> nameMap = new HashMap<String,Integer>();
    readNames(nameMap);
    printMap(nameMap);
  }

  /*
   * Reads a list of names from the user, storing names and how many
   * times each appeared in the map that is passed in as a parameter.
   */
  private void readNames(Map<String,Integer> map) {
    while (true) {
      String name = readLine("Enter name: ");
      if (name.equals("")) break;

      // See if that name previously appeared in the map. Update
      // count if it did, or create a new count if it didn't.
      Integer count = map.get(name);
      if (count == null) {
        count = new Integer(1);
      } else {
        count = new Integer(count + 1);
      }

      map.put(name, count);
    }
  }

  /*
   * Prints out list of entries (and associated counts) from the map
   * that is passed in as a parameter.
   */
  private void printMap(Map<String,Integer> map) {
    Iterator<String> it = map.keySet().iterator();
    while (it.hasNext()) {
      String key = it.next();
      int count = map.get(key);
      println("Entry [" + key + "] has count " + count);
    }
  }
}