Solutions to Section #6

1. Image processing

```
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.

2. Name Counts

```
/*
 * 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);
      }
   }

}
```