Name:
Date:

08.06 Picture Lab Worksheet

Directions: Make note of your responses to the following questions as you work through the activities and exercise in the lesson.

Activity 1 Questions

1. How many bits does it take to represent the values from 0 to 255?
   It takes 8 bits
2. How many bytes does it take to represent a color in the RGB color model?
   Only 3 bytes
3. How many pixels are in a picture that is 640 pixels wide and 480 pixels high?

There are 307,200 pixels in such a picture.

Activity 2 Questions

1. How can you make pink?
   (255,147,251)
2. How can you make yellow?
   (255,255,0)
3. How can you make purple?
   (193, 0, 255)
4. How can you make white?
   (255,255,255)
5. How can you make dark gray?

(69,69,69)

Activity 3 Questions

1. What is the row index for the top left corner of the picture?
   The row index for the top left corner is 0.
2. What is the column index for the top left corner of the picture?
   The column index for the top left corner is 0.
3. The width of this picture is 640. What is the right-most column index?
   The right-most column index is 639.
4. The height of this picture is 480. What is the bottom-most row index?
   The bottom-most row index is 479.
5. Does the row index increase from left to right or top to bottom?
   The row index increases from top to bottom.
6. Does the column index increase from left to right or top to bottom?
   The column index increases from left to write.
7. Set the zoom to 500%. Describe what you see.

If you set the zoom to 500%, you see the individual squares/pixels of the image, or pixelation. Because the zoom level is set so high, we are able to see each square. In the normal photo, those pixels all blend together to make a smooth image.

Activity 3 Exercise Results

1. After modifying the `main` method in the `PictureExplorer` class to create and explore a different picture from the `images` folder, paste the code below.

```
public static void main( String args[]){
Picture pix = new Picture("flower1.jpg");
pix.explore();
}
```

2. After scaling your image, paste the new `main` method code below.
   Picture p = new Picture("flower.jpg");
3. Picture smallP = p.scale(0.25,0.25);
4. smallP.write("smallflower.jpg");
5.

Activity 4 Exercise Results

1. What was the output result after running the `getCount` method?
   Paste your `getCount` method below.
2. public int getCount(int number) {
3. int count = 0;
4. for (int[] rowArray : matrix) {
5. for (int i : rowArray) {
6. if (i == number) {
7. count++;
8. }
9. }
10. }
11.
12. return count;
13. }
14. Output is Count should be 6 and count is 6

15. What is the output result after running the `getLargest` method?
    Paste your `getLargest` method below.
16. public int getLargest() {
17. int largest = Integer.MIN_VALUE;

```
    for (int[] row : matrix){
        for (int i : row){
            if (i > largest) {
                largest = i;
            }
        }
    }

    return largest;
}
```

Output is Total for column 1 should be 7 and is 7

What is the output result after running the `getColTotal` method?

Paste your `getColTotal` method below.

```
public int getColTotal(int col) {
    int total = 0;

    for (int[] row : matrix) {
        total += row[col];
    }

    return total;
}
```

Output is Total for column 2 should be 9 and is 9