CS 301 Homework: Face Maker

For this assignment, you will implement a tool for defining a custom face similar to (but much simpler than) tools used to create your avatar in a role playing computer game.

No Starter Code
There is no starter code for this assignment. You are expected to demonstrate that you can create a new Android project from scratch with appropriately named elements. Do not complete this assignment by modifying an existing project.

Specification – Part A

- [15%] Design a tidy user interface that includes the following elements:
  - a SurfaceView for displaying the current face. This will be blank for now.
  - three SeekBar views for selecting the Red, Green and Blue components of a color. Each SeekBar should allow the user to select a number from 0 to 255.
  - A Spinner control that the user can use to select the face's hair style. There must be at least three choices.
  - A RadioButton set that the user can use to choose between "Hair", "Eyes" and "Skin"
  - a "Random Face" button
  - Use TextViews to label each of the controls above appropriately.
  - Note: the user interface need not respond to user interaction at this point.
- [5%] Define a `Face` class in your project.
  - It should have at least these properties:
    - `skinColor : int`
    - `eyeColor : int`
    - `hairColor : int`
    - `hairStyle : int` – identifies which eye style the face has.
  - It should have at least these methods:
    - a constructor
    - `randomize()` - initializes all the variables to randomly selected valid values. This method should be called by the constructor.
- [10%] Your code should conform to the CS301 Coding Standard.
- [3%] Turn your program in correctly using GitHub (see instructions below).

Specification – Part B

- [10%] Add code to your `Face` class to draw the face based upon the properties
  - You should add at least these methods
    - `onDraw()` - draws this `Face` object upon a given `Canvas`
    - Appropriate helper methods for `onDraw` so that it's not one giant method
- [10%] When the user selects a new value on the Spinner, the hair's appearance should be changed to reflect the user's choice.
- [15%] When the user selects one of the RadioButtons (hair, eyes or skin) the current progress of the SeekBars (red, green and blue) should be moved to reflect the current color of the corresponding element.

- [15%] When the user adjusts any of the SeekBars (red, green or blue), the currently selected element (hair, eyes or skin) should change color on the SurfaceView.
- [5%] When the app starts up, it should display a random face with the various views already set to reflect the values used to construct that face. Each time the user hits the "Random Face" button, a new random face should be generated and displayed in the same manner with matching views.
- [10%] Your program should conform to the CS301 Coding Standard.
- [2%] Turn your program in correctly using GitHub (see instructions below).

Turning in your Homework

Part A and Part B have different due dates as per the course schedule. Following these instructions carefully for turning in part A. Failure to follow these instructions will hurt your grade. It also will frustrate those who are grading the assignment.

1. Include your name in a @author tag at the top of each .java source code file.
2. Please be certain that your project has a unique name so that all the student projects can be loaded into the same workspace.
3. Create a new repository on github.com for your project. Check your project into this repository.
4. Create a text file (.txt extension) that contains the URL of your gibhub repository. Name the file so that it contains your UP userid. For example, if Woodrow Wilson was taking CS301 he might turn in a file named: `FaceMakerApp_wilsonw22.txt`.
5. Submit your renamed .txt file via the associated "Turn In Here" link on the course web site.

For Part B, you need not turn in anything as instructor will still have your project URL from part A above. If you find you need to turn in part B using a different github repository you may do so but a 20% penalty will be applied to your grade. Please notify the instructor if you need to do this. Do not re-submit a new URL to the part A assignment link.

Do not make any changes to the repository for 72 hours after each due date. If you do, the assignment will be graded as if it had been turned in at the time of the latest change (i.e., it will be considered late).