Lab 1 (20 points)
Due: Wednesday, February 27

1. Download a copy of ShowPic.java as well as the file barbiehd.gif. Save both in the same folder, then compile and run the code. Make the following modifications to the code:
   a. Add an array of images to the class; see the Transformer.java code for an example of how to do this. You will need to amass a collection of at least ten .gif or .jpeg images to include in the array. To simplify things, restrict your choice of graphics files to images that are the same size or smaller than barbiehd.gif.
   b. In the paint() method, add code that activates the “change” and “reset” buttons, as follows:
      - when “change” is chosen, a new picture should replace the current one; the new image should be chosen at random from the array
      - when “reset” is chosen, the image is returned to the original picture, the background color reverts to the original background, and the image should be displayed in the middle of the viewing area, as it was originally. (Hint: make sure you capture the initial values of bg, posX and posY so that you can use them in reset; this will probably involve additional member variables and changes to the constructor).
   c. In the actionPerformed method, replace the output line “chose change” with code that chooses a new image.

2. Write a Java program using AWT and Swing objects to create a window containing the following picture:

   ![Submarine Image]

   **Colors:**
   - Outlines: black
   - Background: cyan
   - Submarine body: yellow
   - Propeller: dark gray
   - Portholes: white

   a. Add some interesting details to the picture; for example, sea life, shipwrecks, pirate treasure, etc.
   b. Add animation to the picture; show the sub moving against the background objects, or vice versa.
   c. Add the ability to control the animation via buttons, one labeled “move,” and the other labeled “freeze.” The “move” button should cause the animation to start, while the “freeze” button should cause it to stop.