Lecture-Lab
Decorator Design Pattern

- Problem:

  Draw ovals with a red line instead of a black line. Use a Decorator to provide this functionality unique to all ovals.

- Steps:

  o Create a `FigureDecorator` class that extends `Figure`.

  o Support a one-way association from `FigureDecorator` to `Figure`. This association represents the figure to be decorated.

  o Implement the methods on `FigureDecorator`.

  o Create a `RedLineFigureDecorator` class that extends `FigureDecorator`. What method(s) should this class override to draw a figure's outline in red rather than black? Note, you can draw a red line by using `g.setColor(Color.RED)` where `g` is of type `Graphics`.

  o What method do you need to change so that ovals are drawn with red lines and every other shape is drawn with a black line? Implement the needed changes to this method.

If you finish this use of Decorator, try using Decorator to provide the following functionality in the PhotoAlbum:

- When a photo is added into the library using "File->Add Photos…", the photo has no description. Decorate photos added in this way to set the description to all tags set for the photo.

- Start by looking at the design for photo album, figuring out how to add in Decorator and then try implementing your plan.

Consider JHotDraw – can you find an instance of Decorator? Is it implemented as you would expect?