

In this homework, you are provided with an incomplete source code of classes.

You can find information about data fields and methods within comments in the source files.

Submit your java **source** files (.java) via BlackBoard before the due date.

Maximum 2 students can work together. The file should contain the name of group members.

You are expected to complete the missing parts and provide **compile-able** and **executable** source code.

Any type of **shared** work with different groups will be considered **cheating**. Thus, do **not** share your work.

Drawing Figures

Part I: Class Structure (5 points)

We create and draw figures through the following classes:

- Drawable interface: A class implementing this interface draws itself on a canvas
- Abstract Figure class implementing Drawable and Comparable interfaces: encapsulates the common properties of figures.
- Circle extending Figure
- Square extending Figure
- Rectangle extending Square
- FigureCanvas manages a list of figures.
- GUI creates the user interface.

Part II: GUI (5 points)

In Part II, the graphical user interface is created based on JavaFX library.

We can:

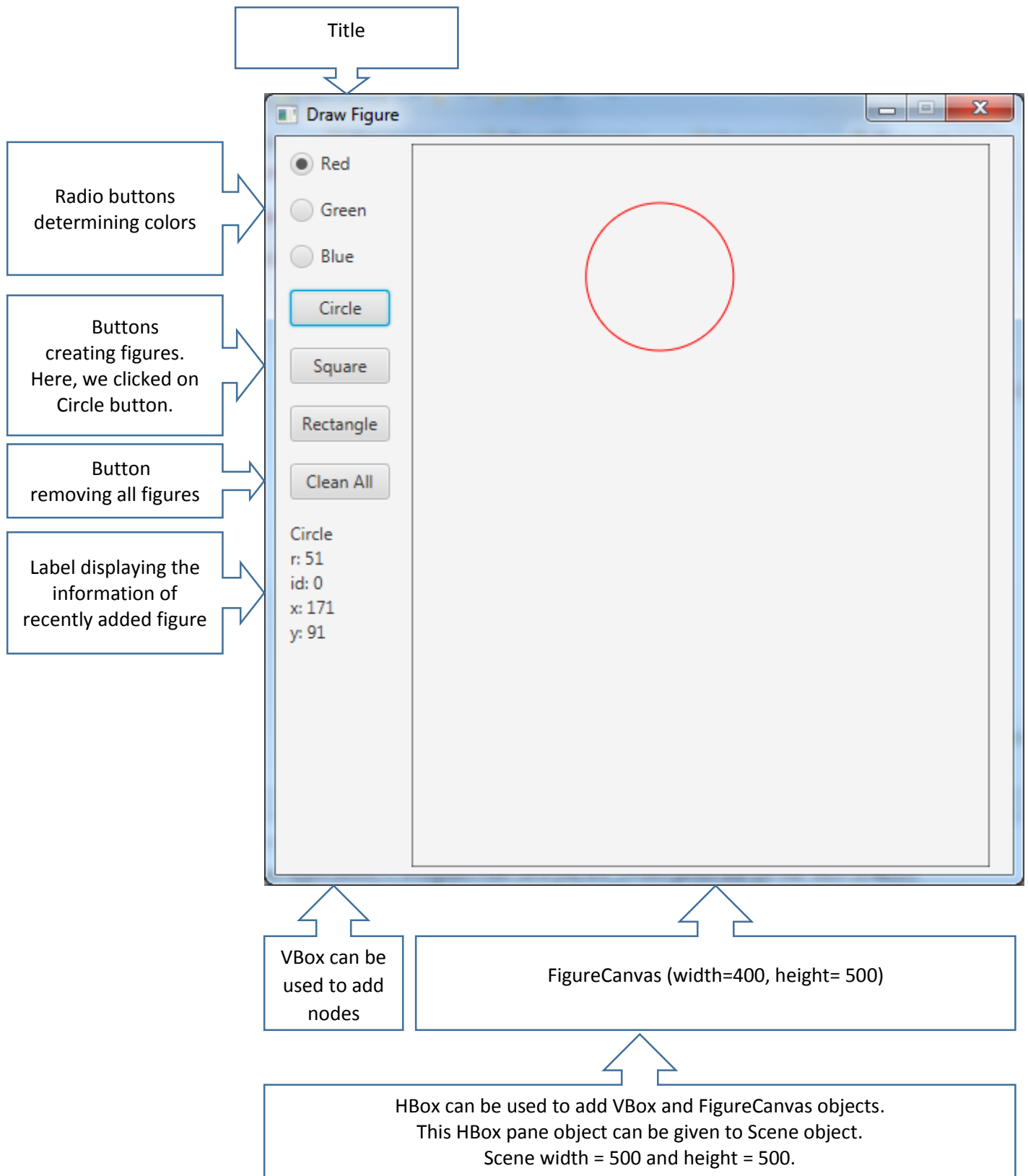
- select colours through radio buttons,
- create figures through buttons,
- clean all figures, and
- select two figures by clicking to compare them based on their areas.

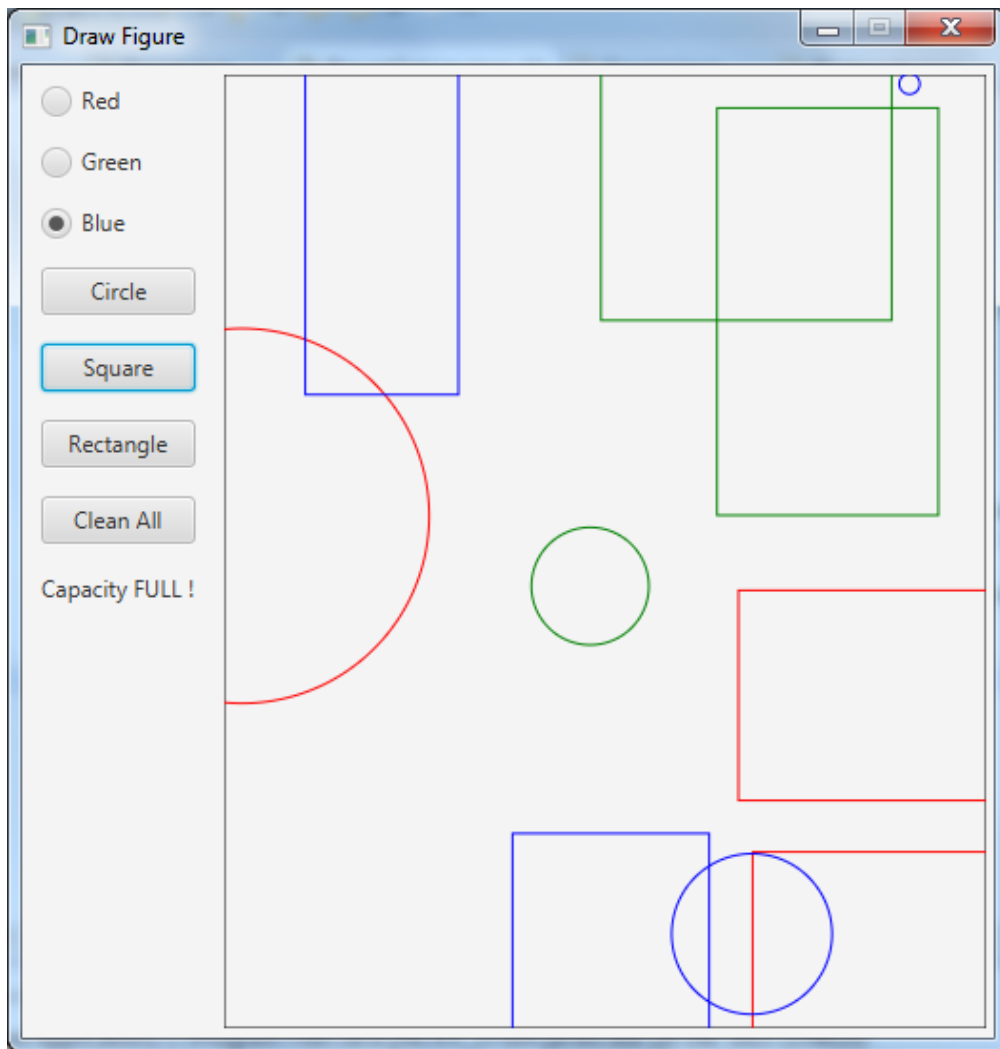
The information about:

- lastly added figure,
- the capacity of the list,
- the comparison of two lastly selected figures, and
- clean all button

are displayed on the left side.

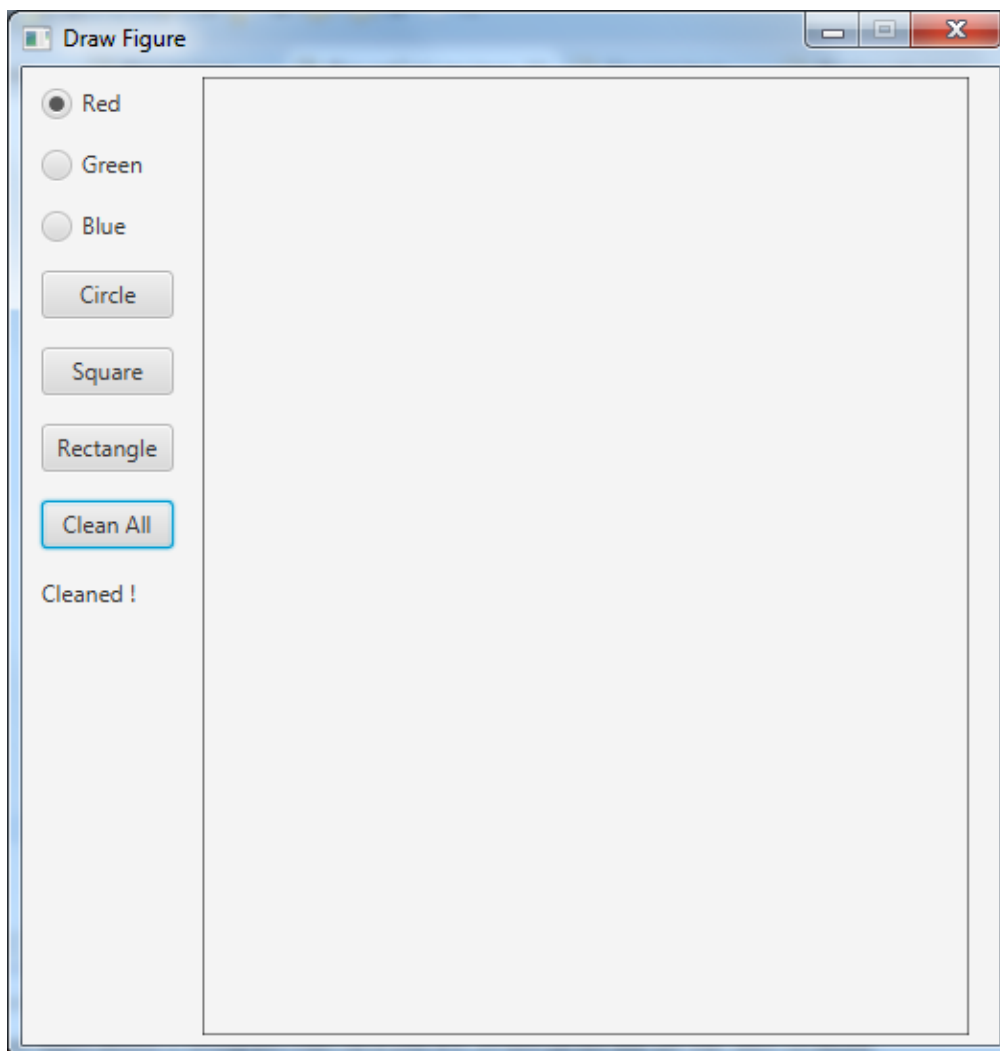
In the following, you can find figures obtained during the execution of the GUI class.



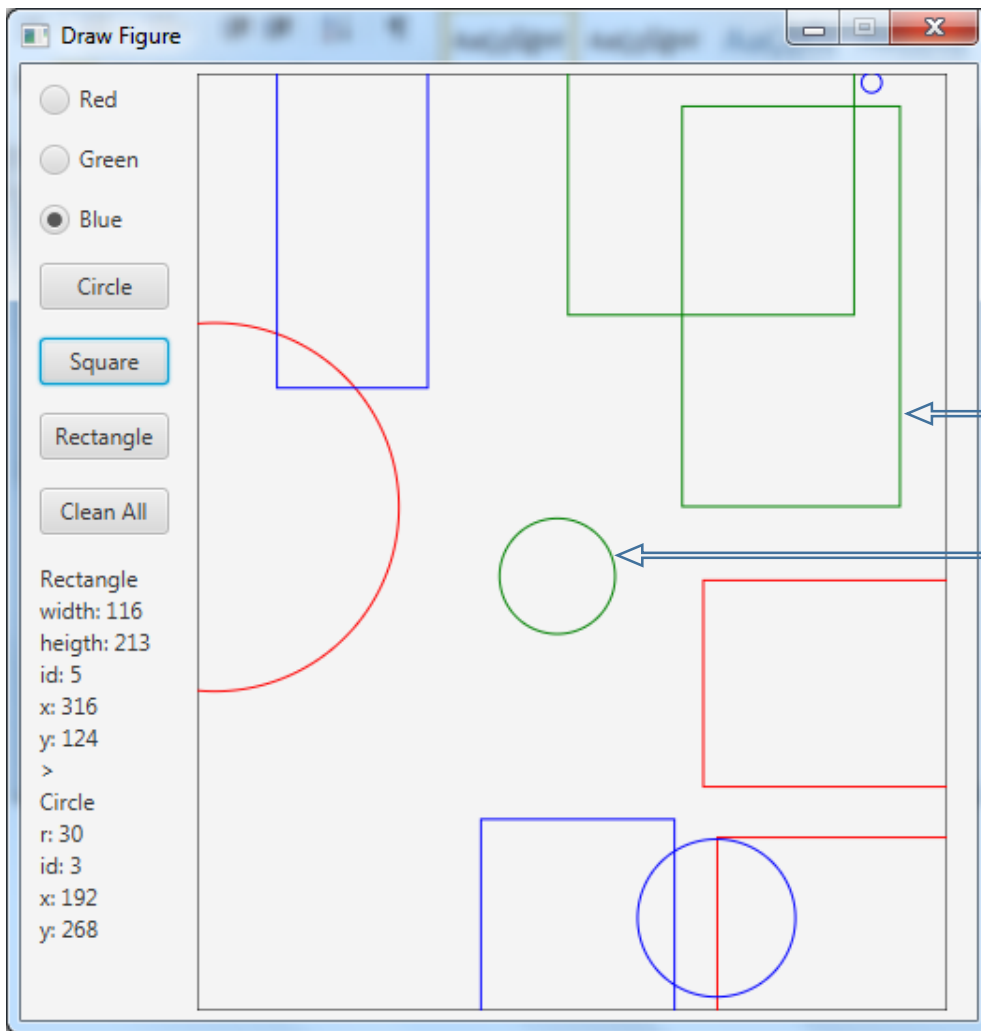


There are 10 figures,
and the capacity of
the list is also 10.

The message is
displayed when we
want to add a new
square.



The message is
displayed when we
click on "Clean All"
button.

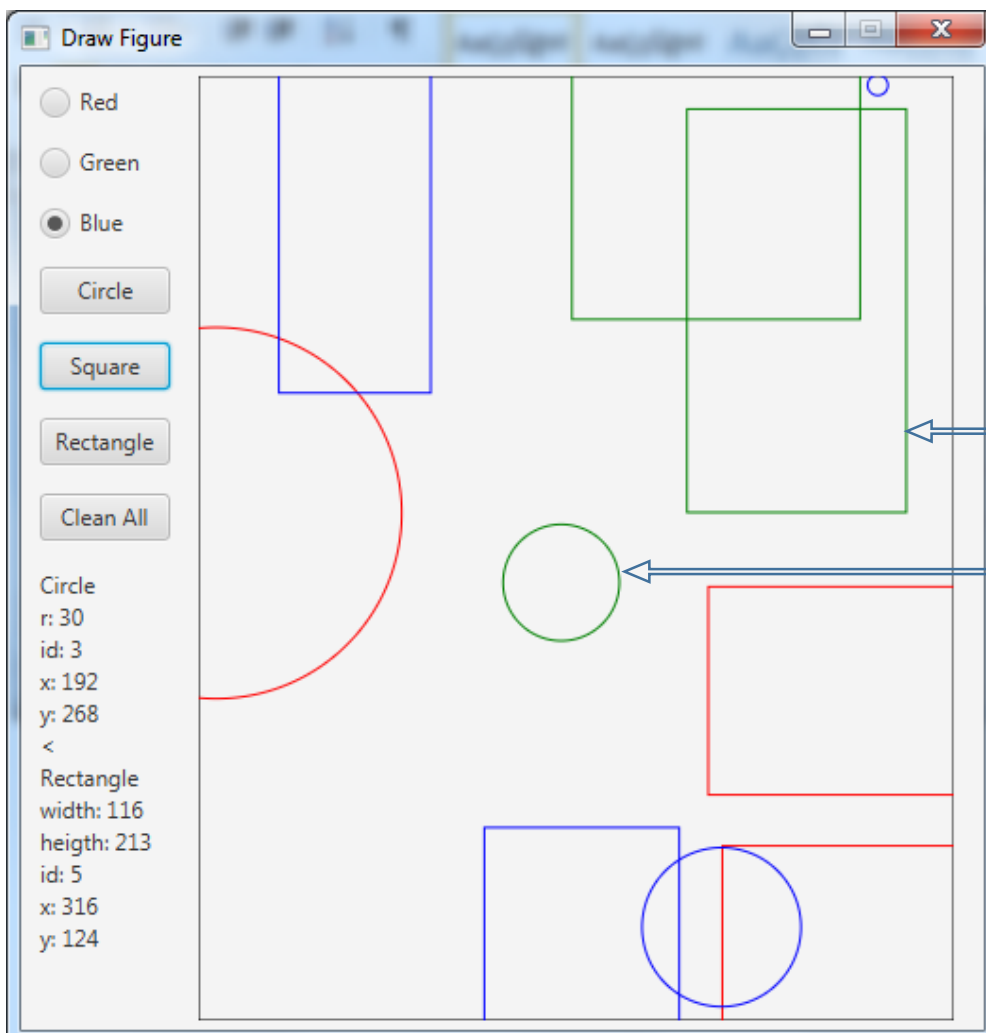


Figures are compared based on their areas.

The comparison result is displayed through the label object on the left side.

The first mouse click is on this rectangle.

Then, the second mouse click is on this circle.



Then, the second mouse click is on this rectangle.

The first mouse click is on this circle.