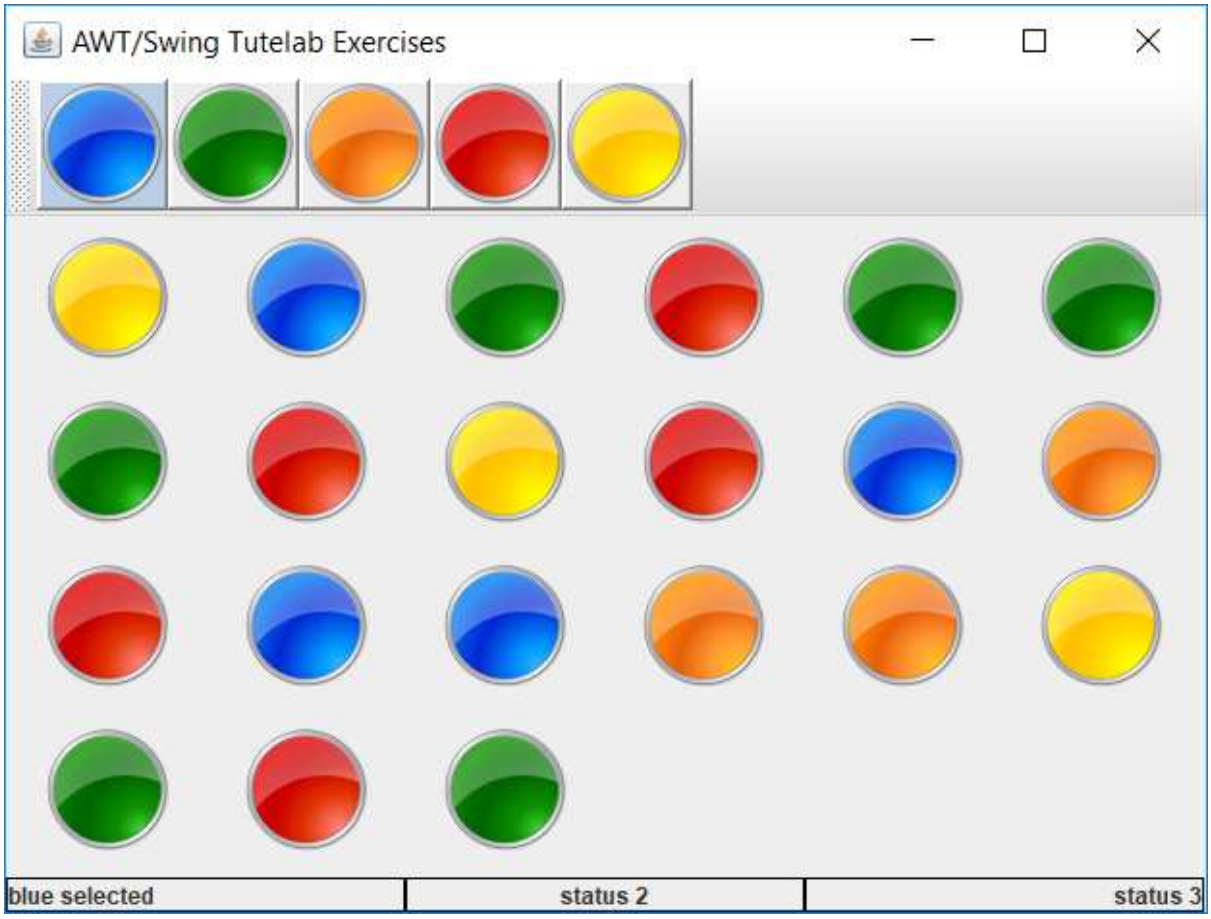
TuteLab 6 – AWT/Swing (Components, Containers and LayoutManagement)



For this tutelab you are to implement the AWT/Swing User Interface shown in the screenshot above.

The application comprises a square grid of randomly coloured circles and you are provided different coloured .png files for this purpose.

There is also a toolbar which shows five different coloured circles. You can use the `JToolBar`, `JToggleButton` and `ButtonGroup` classes to do this which will allow for mutually exclusive (radio button style) selection next week.

You can use the `JLabel` and `ImageIcon` classes to draw the randomly coloured circles in the main grid.

Finally there is a status bar at the bottom with three segments although only the first segment contains output which can be hard coded for this week.

CODE STRUCTURE

This week you are not expected to use the model view controller (MVC) approach for your code structure or to provide any behavior/user interaction via event handling (we will cover event handling next week).

However when writing your code you should still consider cohesion in terms of how many classes you create, which components exist in each class and how they are organized using layout managers.

For example a good starting structure would be to have separate classes for the `JFrame`, the `JToolBar`, the `JPanel` with the grid of circles, and finally the status bar (another `JPanel` can be used here). This distributes the functionality of creating and laying out components to separate classes and should ease implementation compared with putting everything in a single `JFrame` class.

Some other things to consider for flexibility:

Try not to limit yourself to a fixed 16 circle grid
Try not to hard code the number of colours or toolbar buttons
Consider flexibility in terms of path/filename management for the .png images.