

# Java Lab5

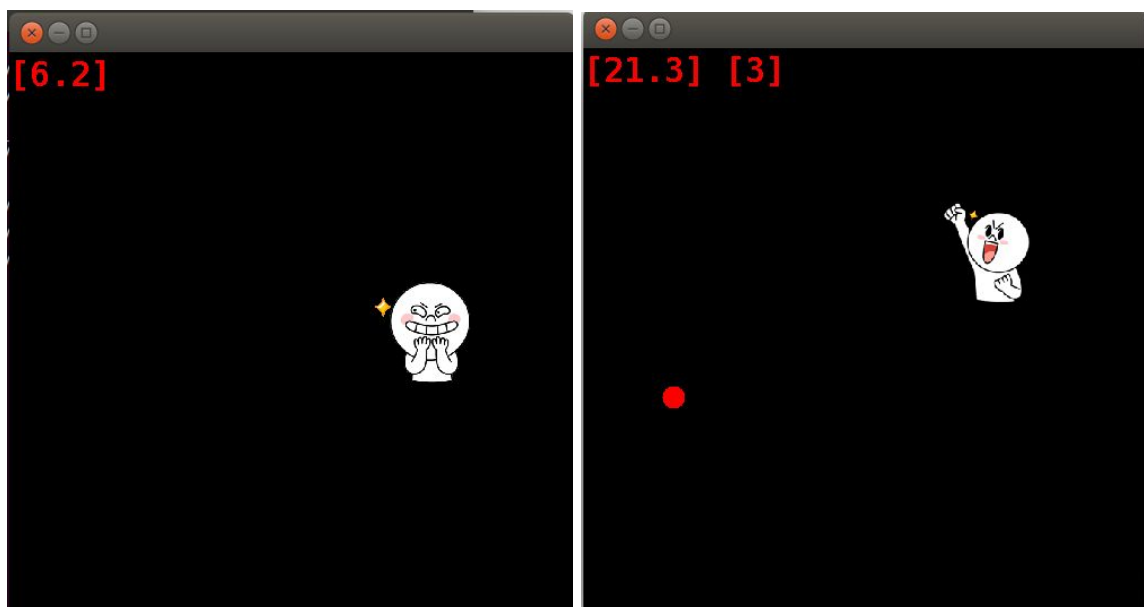
2018/04/24 (Tue)

## Basic:

- (1) Given 3 images (in png format). Display one of them on the JPanel.
- (2) The image keeps moving to the right. When it is going to be outside the screen, move it back to the left edge.
- (3) Display the current time (in second) on the top-left corner.
- (4) When you press the keyboard:
  - > Press 'left' or 'a' to show the previous image.
  - > Press 'right' or 'd' to show the next image.
  - > Press 'up' or 'w' to move the image up.
  - > Press 'down' or 's' to move the image down.
- (5) Size of JPanel: 500x500. Size of image: 100x100. Background color: BLACK. Font color: RED. Font size: 30.

## Advanced:

- (1) Draw a dot on the screen. Whenever the image touches it, put the dot at a new random position.
- (2) Count the number of dots touched, and display it on the top-left corner.
- (3) Color of dot: RED. Size of dot: 20x20.



**Hints:**

```
javax.swing.ImageIcon;  
java.awt.image.BufferedImage;  
java.util.Timer;  
java.util.TimerTask;  
  
addKeyListener(this);  
  
img = (new ImageIcon("xxxxx.png")).getImage();  
  
timer = new Timer();  
timer.schedule(new TimerTask() {  
    public void run() {  
        // code...  
    }  
}, 0, sleep_time);  
  
if (e.getKeyCode() == e.VK_DOWN) ...  
if (e.getKeyChar() == 'w') ...
```

**Using BufferedImage to repaint:**

```
paintComponent(Graphics g) {  
    BufferedImage buff = new BufferedImage(  
        500, 500, BufferedImage.TYPE_INT_ARGB);  
    Graphics2D g2 = buff.createGraphics();  
    // g2.draw ...  
    // g2.draw ...  
    // g2.draw ...  
    g.drawImage(buff, 0, 0, 500, 500, null);  
}
```