

Java Lab5

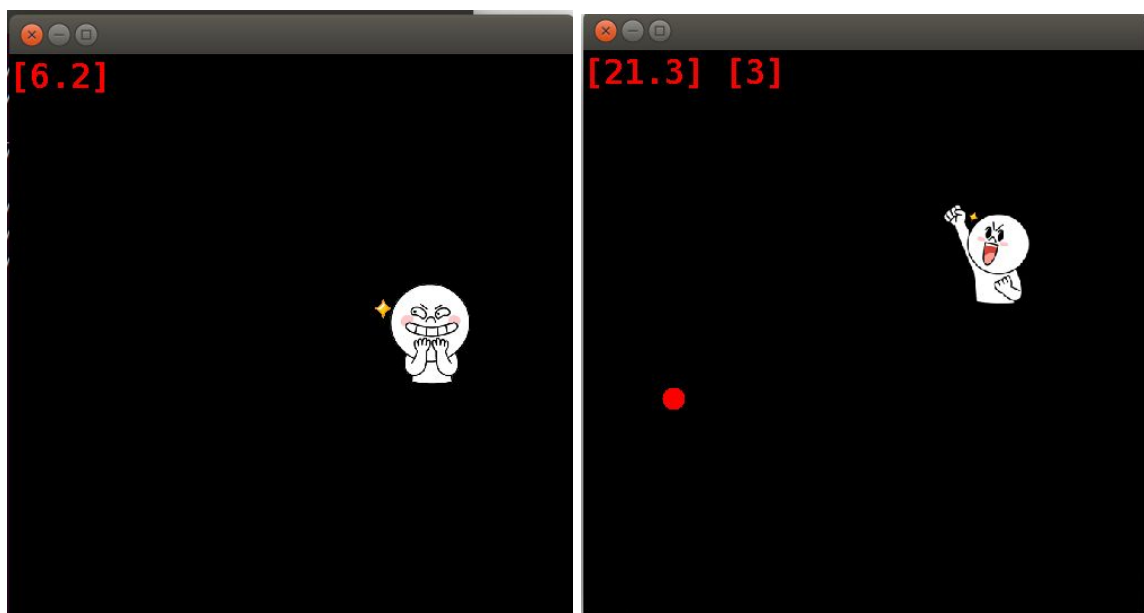
2018/04/26 (Thu)

Basic:

- (1) Given 3 images (in png format). Display one of them on the JPanel.
- (2) The image keeps moving in one of the four directions (left/right/up/down). When it is going to be outside the screen, stop it.
- (3) Display the current time (in second) on the top-left corner.
- (4) Display the next image every 3 seconds.
- (5) When you press the keyboard:
 - > Press 'left' or 'a' to change the direction to 'left'.
 - > Press 'right' or 'd' to change the direction to 'right'.
 - > Press 'up' or 'w' to change the direction to 'up'.
 - > Press 'down' or 's' to change the direction to 'down'.
- (6) 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);  
}
```