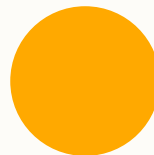




Custom Swing Graphics

Reese Hatfield



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Boring Graphics

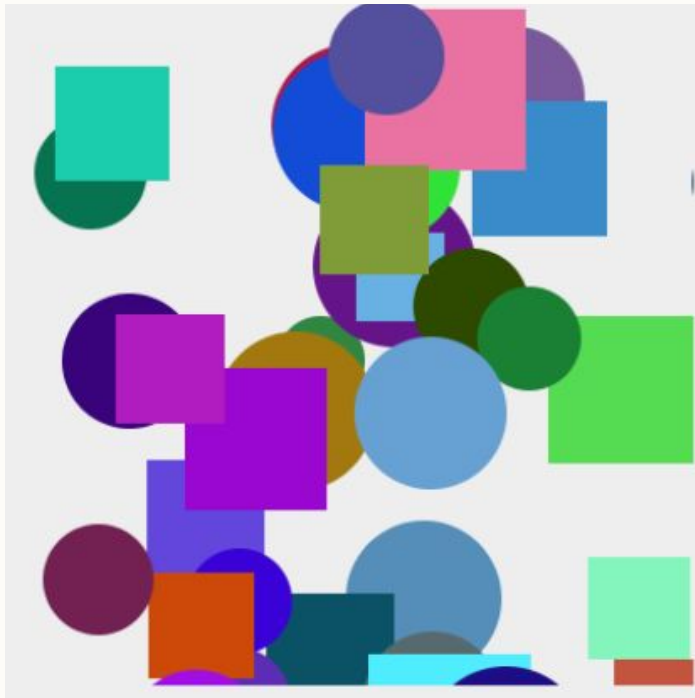
- We haven't *really* made our own graphics
- Just wrapping other peoples JComponents
- How do we make more interesting stuff?





Cool Graphics

- How do we get stuff like this?
- Actually custom graphics?





Cool Graphics

- Let's look at how JComponent works
- `paintComponent(Graphics g)`
- We can use this method to make our own graphics





Cool Graphics

- paintComponent gives us a Graphics object
- super().paintComponent()
 - renders the default component to the screen (background)
- "Graphics g" is kinda like a paintbrush





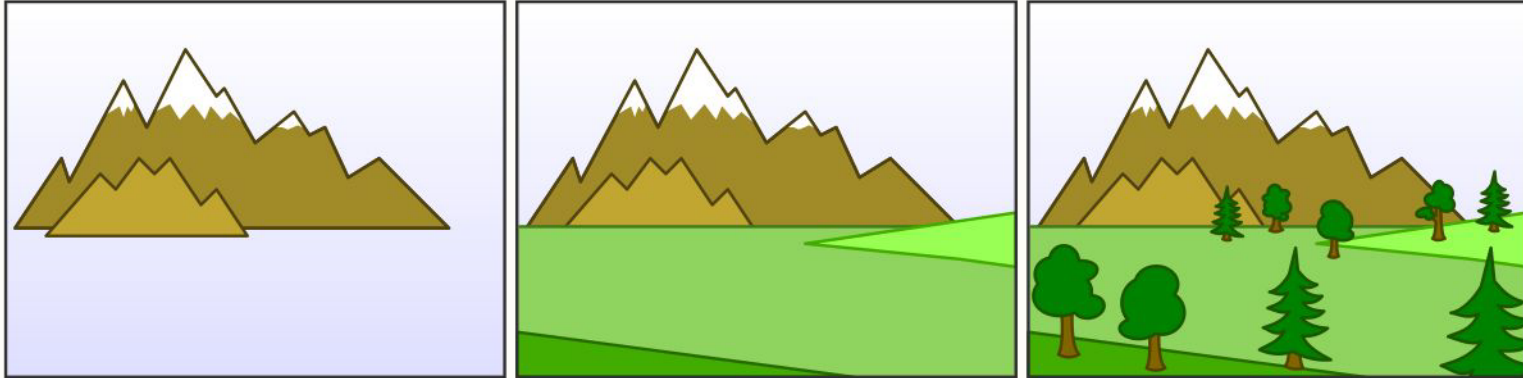
Cool Graphics

- Let's make our own Circle object
 - Red
 - Round
 - Draw it anywhere
- What should we extend?



Painter's Algorithm

- "Must honor opaque property"
- Why?
- Painter's Algorithm





Cool Graphics

- We can call `repaint()` to draw a component *again*
- Draw at position
- Change position
- Repeat





Cool Graphics

- If we change where we draw an object repeatedly
- We can animate objects on the screen
- Let's make our Circle move!





Cool Graphics

- Timer class for animations
- `new Timer(
 int delay,
 ActionListener listener
)`
- Let's put repeat code in the listener





Cool Graphics

- If we parametrize our movements:
 - We can make the ball bounce
 - Made position a field
 - Effectively a "framerate"
- Limitless possibilities for object animation

