

## The paint Method

- Computer runs it once (you don't), but then you can run it by calling `repaint()`;
- The computer passes it an object of the Graphics Class, of it's own making.

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```
public void paint (Graphics g)
{
// the computer calls the paint program
// automatically whenever an event requires
// the screen to be redrawn

}
```

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## Graphics!

- `g.setColor`
  - `g.fillRect`
  - `g.drawString`
  - `g.drawPolygon`
- hundreds of methods that use your computer's graphics capability

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## Casting Objects

- If an object is created from a Class, it can be converted to any Child Class later.
- Why? Because Child Classes contain at least as much capability as the Parent Class, plus more.

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## Casting

- Graphics2D is a more powerful class, derived from Graphics, with colors and patterns and other specialty graphics.
- In paint, the Graphics object can be cast to a Graphics2D object

```
public void paint (Graphics g)
{
    Graphics2D g2d = (Graphics2D) g;
}
```

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```
public void paint (Graphics g)
{
    super.paint(g);
    Graphics2D g2d = (Graphics2D)g;
    g2d.setColor(Color.yellow);
    int xValues[] = {40, 50, 60, 40, 40, 45};
    int yValues[] = {50, 50, 50, 50, 50, 50};
    Polygon polygon1 =
        new Polygon(xValues, yValues, 6);
    g2d.drawPolygon(polygon1);
}
```

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