Show me the code !

Festival of Imports !

```
import javafx.application.*;
import javafx.stage.*;
import javafx.scene.*;
import javafx.animation.*;
import javafx.scene.control.*;
import javafx.scene.input.*;
import javafx.scene.canvas.*;
import javafx.scene.paint.*;
```

Application with Start Method

```
GraphicsContext g;

public class MyApp extends Application {
  public void start(Stage stage) {
    Canvas canvas = new Canvas(300,300);
    g = canvas.getGraphicsContext2D();
    Group group = new Group(canvas);
    Scene scene = new Scene(group);
    stage.setScene(scene);
    stage.setTitle("My Application");
    stage.show();
  }
}
```

We never get to see the main method !
This is hidden away in the "Application" class

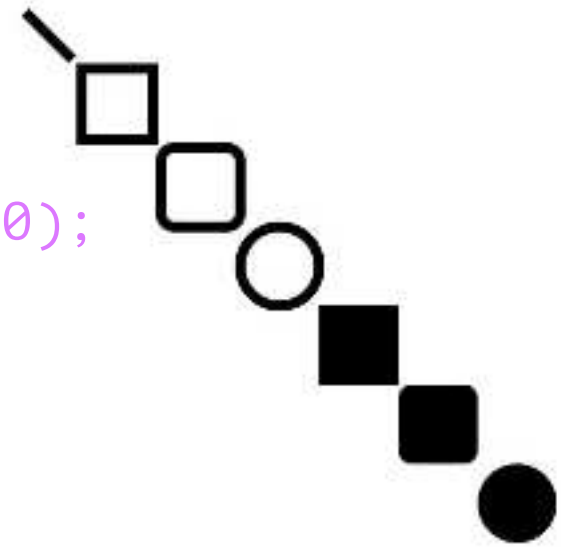
JavaFX needs to do a lot of setup
And doesn't want us interfering with it

The same goes for the constructor method

Anything we do must be in the "Start" method

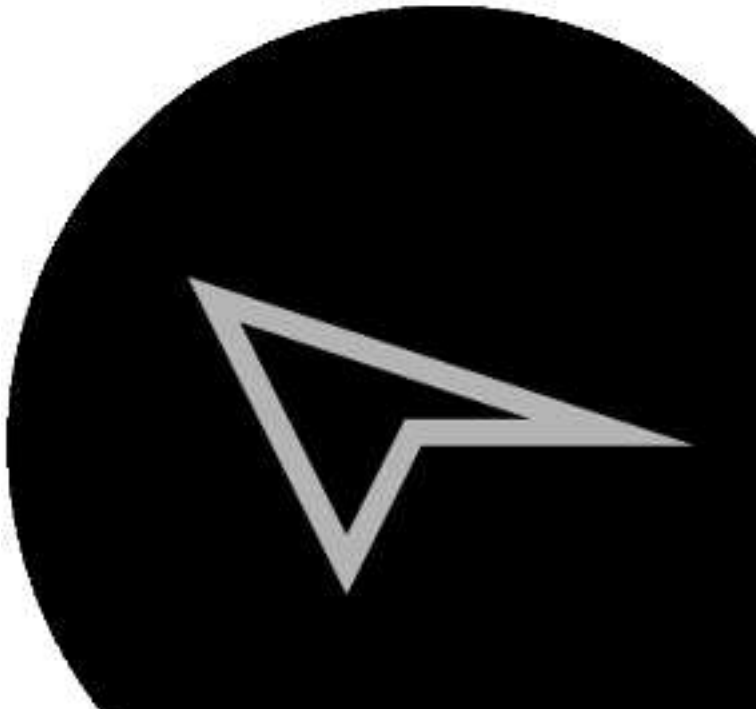
Drawing Shapes

```
g.setLineWidth(4);

g.strokeLine(10, 10, 25, 25);
g.strokeRect(30, 30, 27, 27);
g.strokeRoundRect(60, 60, 30, 30, 10, 10);
g.strokeOval(90, 90, 30, 30);

g.fillRect(120, 120, 30, 30);
g.fillRoundRect(150, 150, 30, 30, 10, 10);
g.fillOval(180, 180, 30, 30);
```



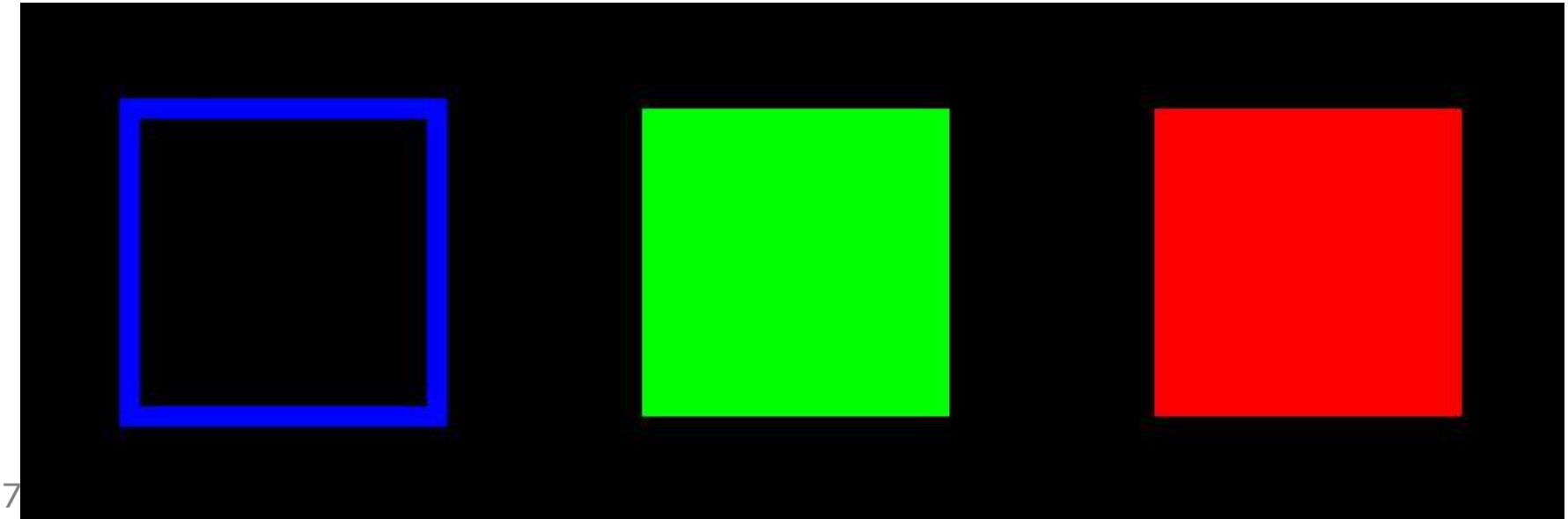
Drawing Polygons

```
g.setLineWidth(3);
g.beginPath();
g.moveTo(30, 20);
g.lineTo(15, 20);
g.lineTo(10, 30);
g.lineTo(00, 10);
g.lineTo(30, 20);
g.closePath();
g.stroke();
```



Colours

```
g.setStroke(Color.rgb(0, 0, 255));
g.setFill(Color.rgb(0, 255, 0));
g.setFill(Color.hsb(360, 1.0, 1.0));
```



Text

As well as basic shapes JavaFX also renders text:

```
g.strokeText("Hello", 20, 20);
g.fillText("Hello", 20, 20);
```

We set the colour of text by changing stroke & fill:

```
g.setStroke(Color.rgb(255, 0, 0));
g.setFill(Color.rgb(0, 255, 0));
```

To change the font, pass in a new font descriptor:

```
Font headingFont = new Font("Arial", 20);
g.setFont(headingFont);
```

Drawing Images

Various image types can be drawn with JavaFX

```
FileInputStream imageData;
imageData = new FileInputStream("photo.jpg")
Image img = new Image(imageData);

int x = 100;
int y = 100;
g.drawImage(img, x, y);

int width = 20;
int height = 30;
g.drawImage(img, x, y, width, height);
```