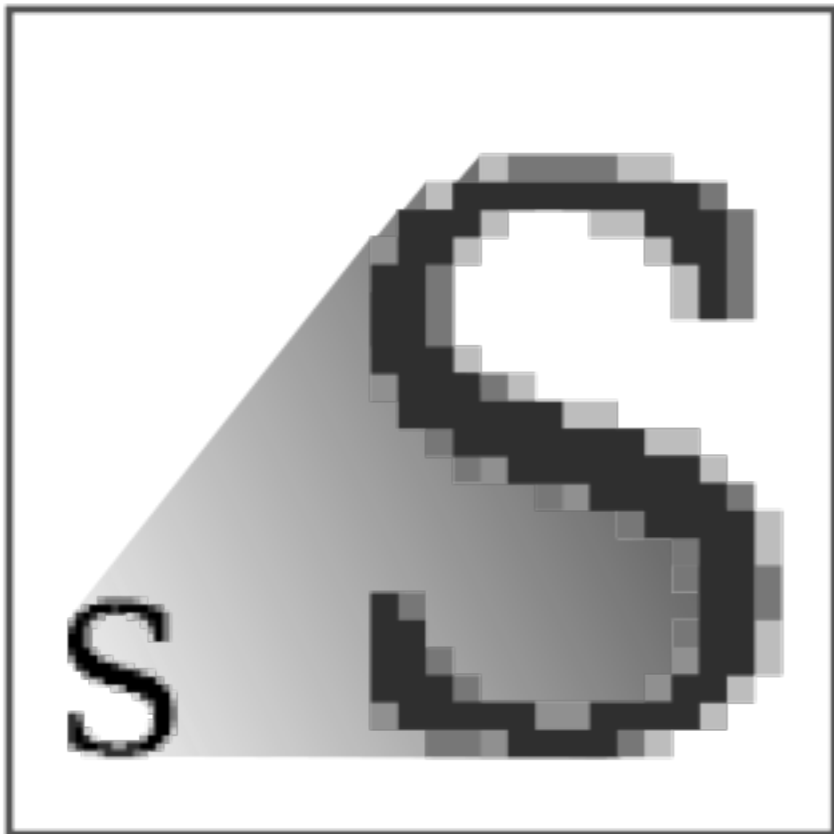


# **Lab 4**

## **Vector Graphics**

February 14, 2013 – Michael Porath (@poezn)

# Why Vectors?

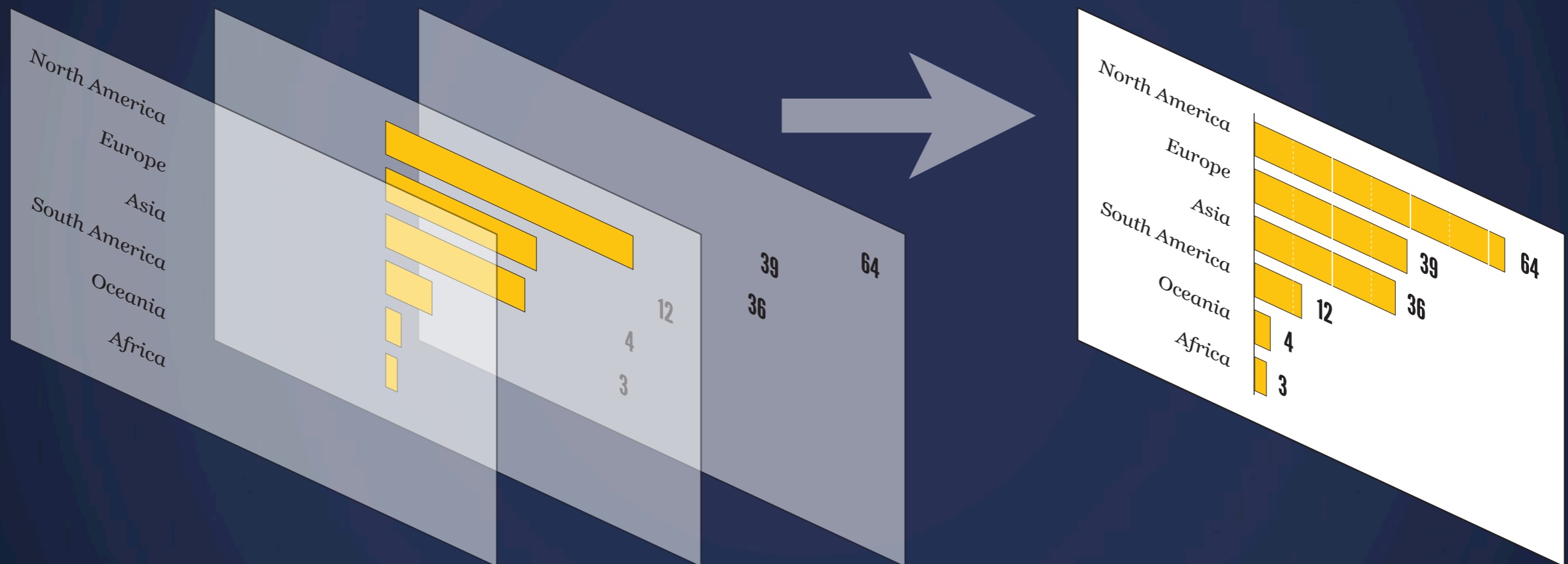


**BITMAP**  
.jpeg .gif .png



**OUTLINE**  
.svg

# Why Vectors?



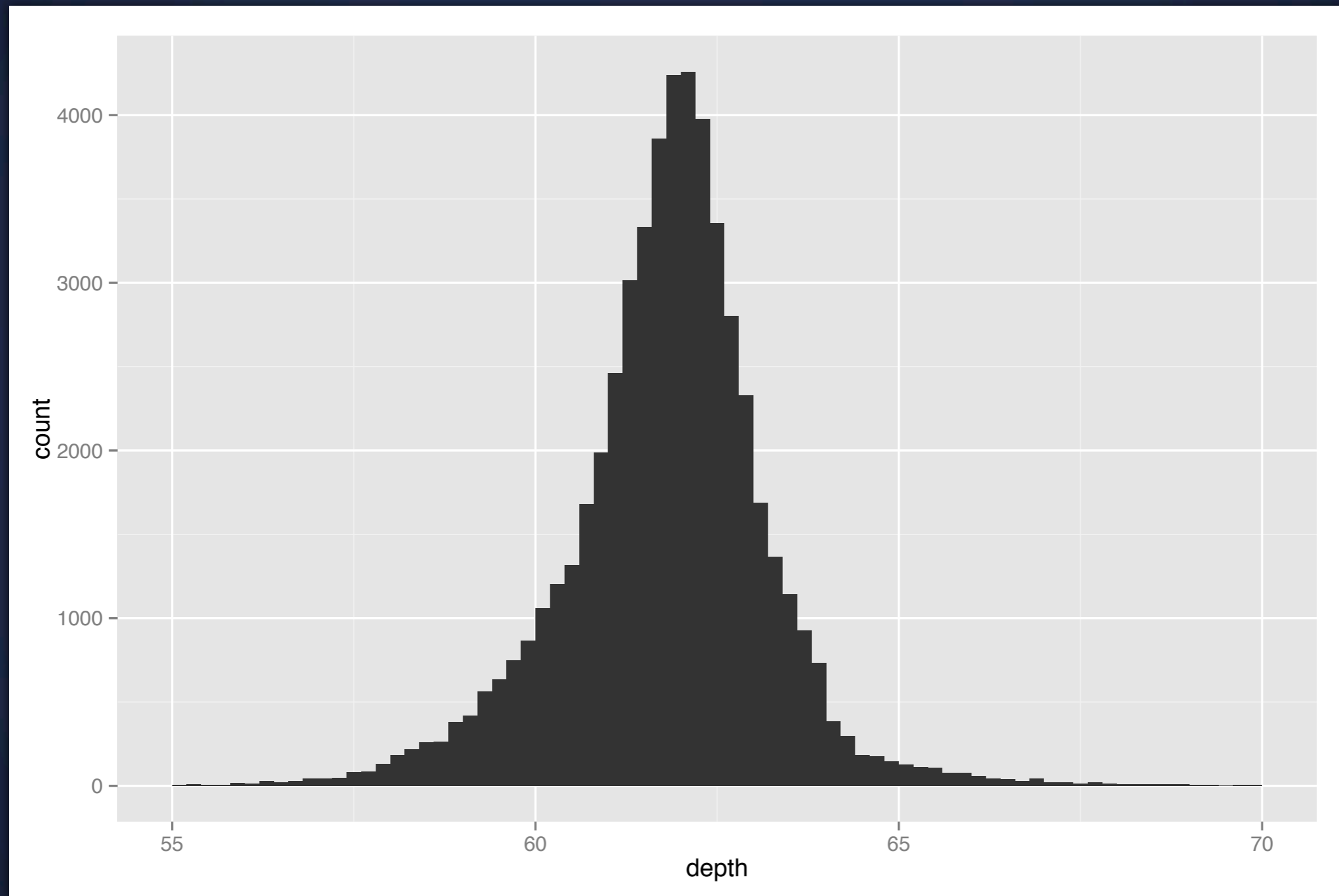
# Why Vectors?



# Why Vectors?

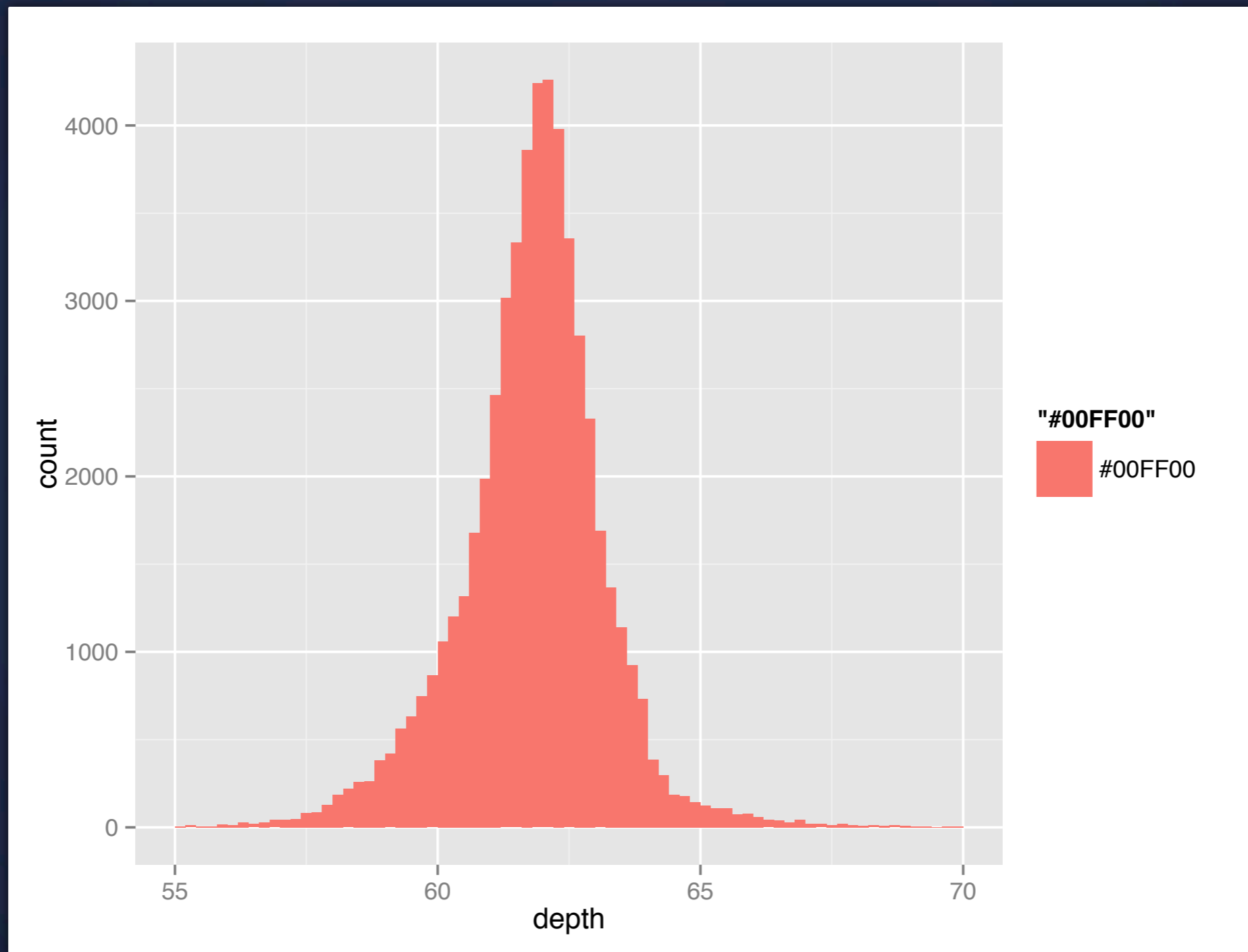


# Remember this?



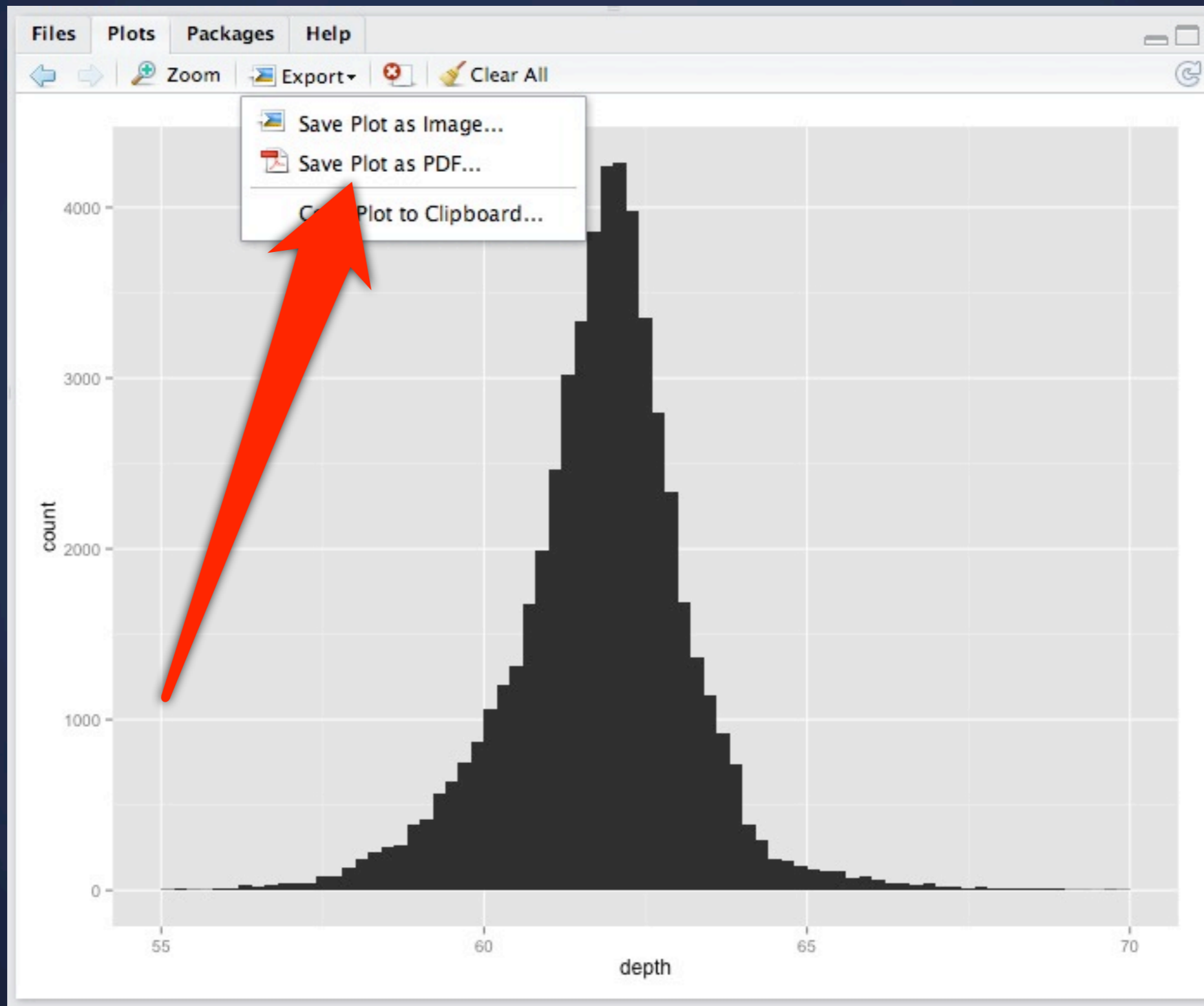
```
qplot(depth, data = diamonds, binwidth = 0.2) + xlim(55, 70)
```

# Remember this?



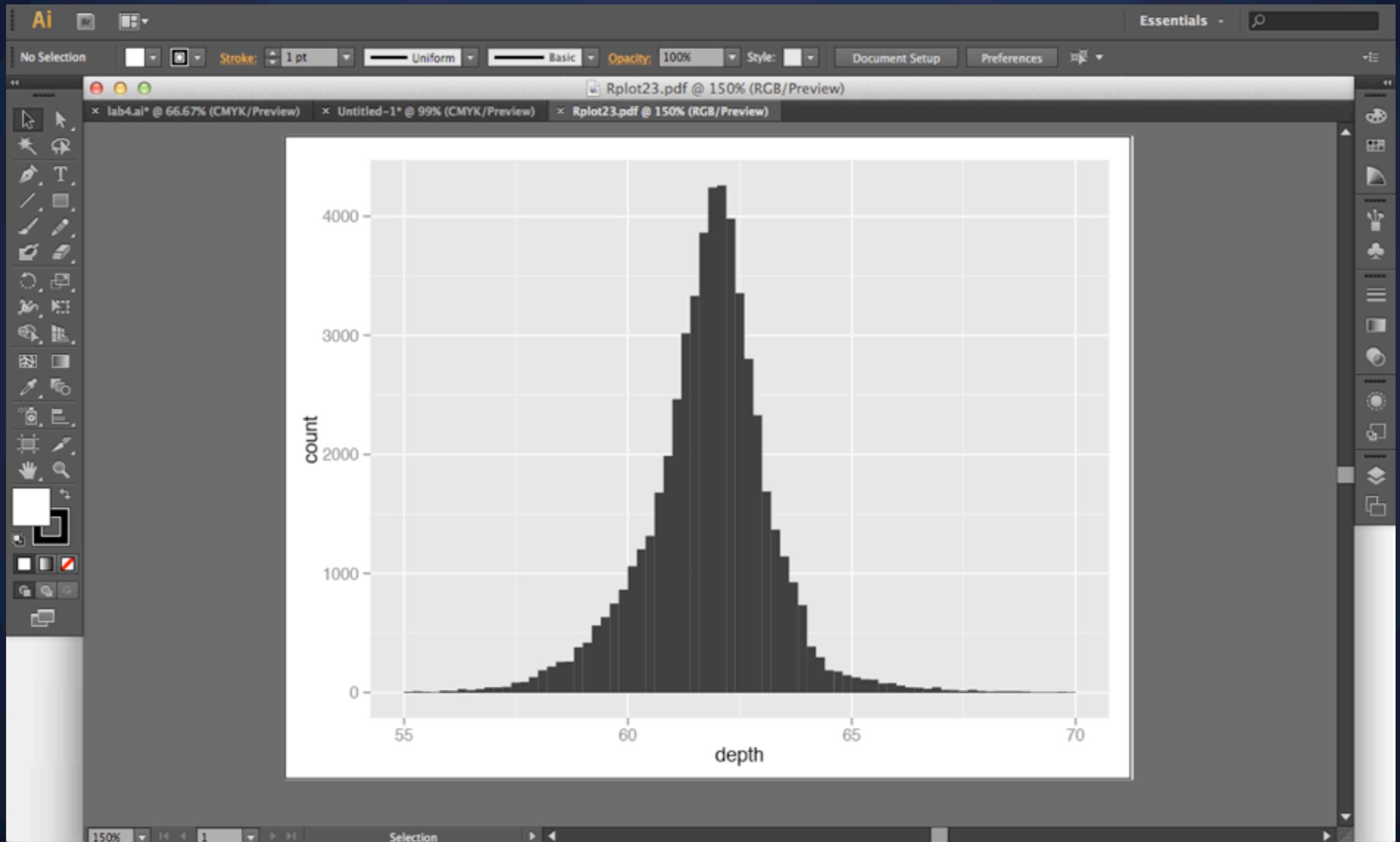
```
qplot(depth, data = diamonds, binwidth = 0.2, fill="#00FF00") + xlim(55, 70)
```

# Exporting to PDF

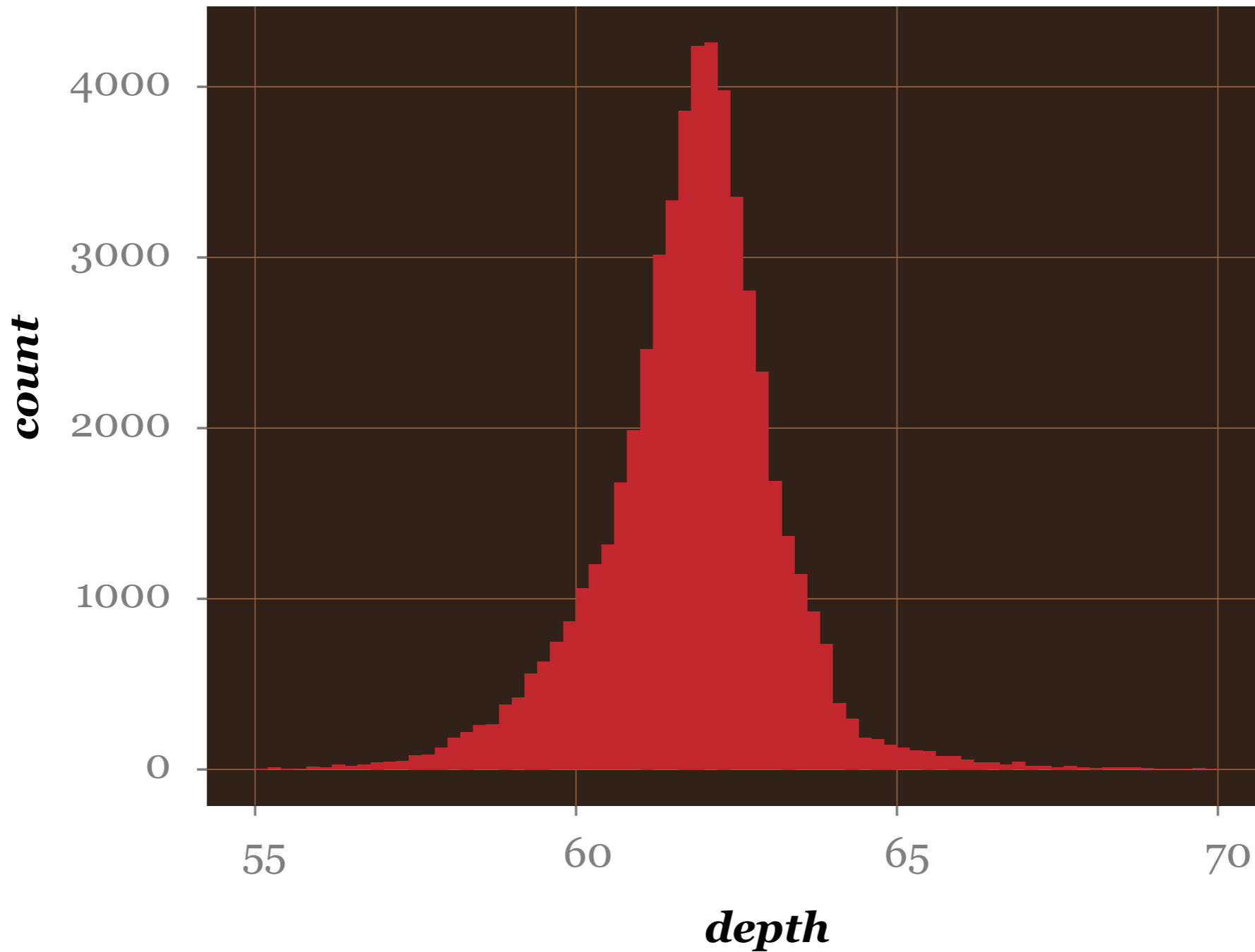




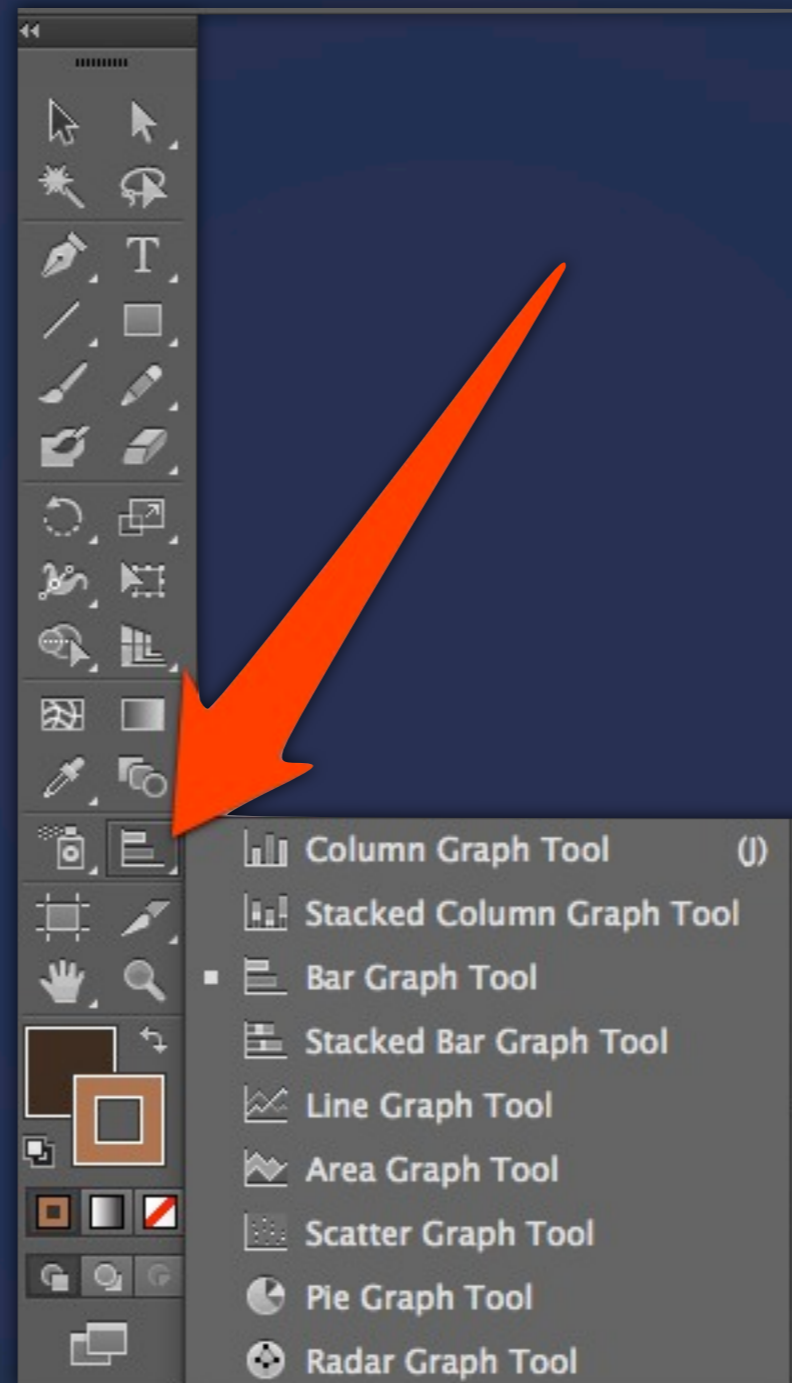
# Importing with AI



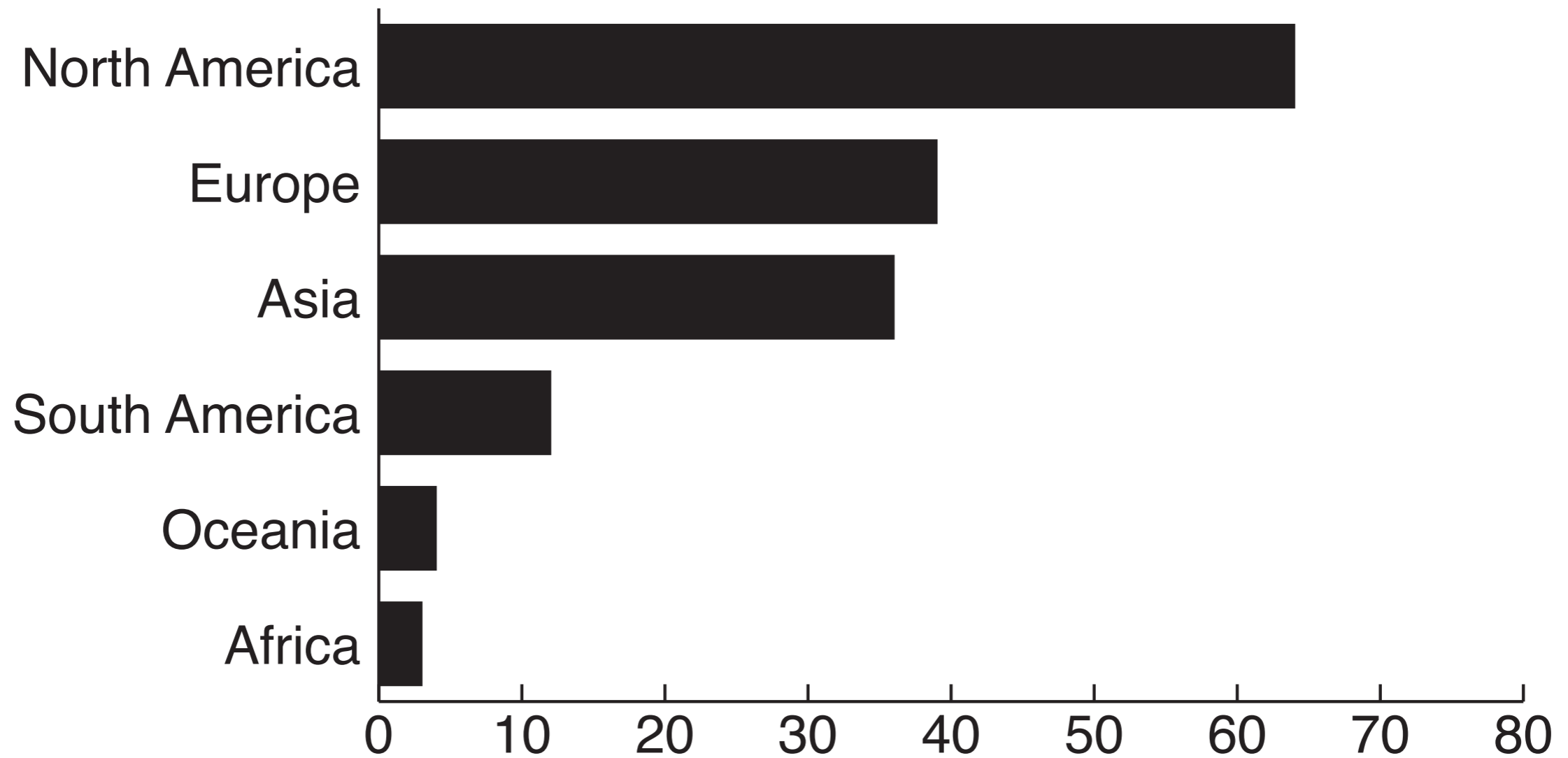
# Apply some Polish



# Graph Tool



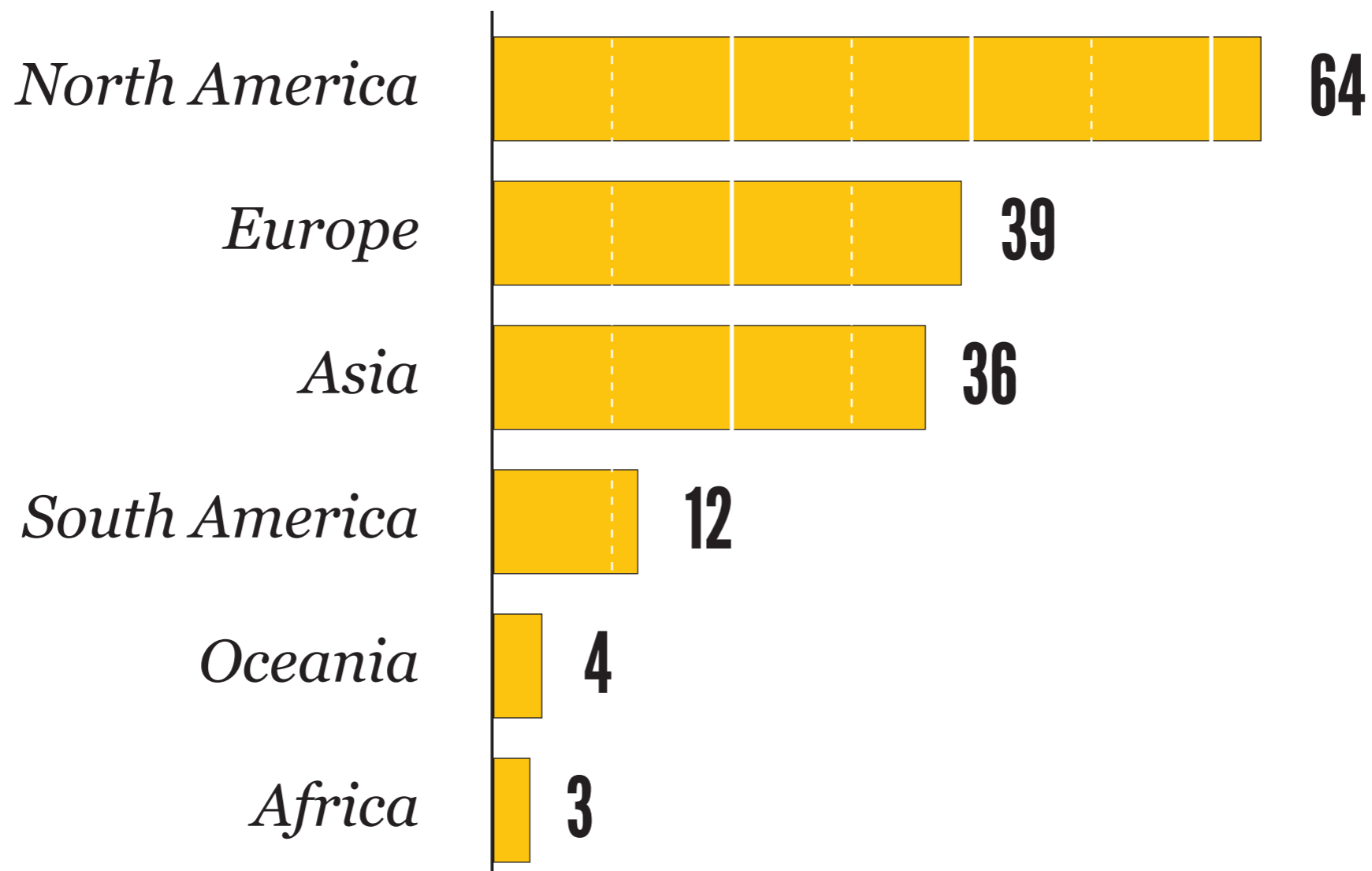
# Let's try it - Bar Chart



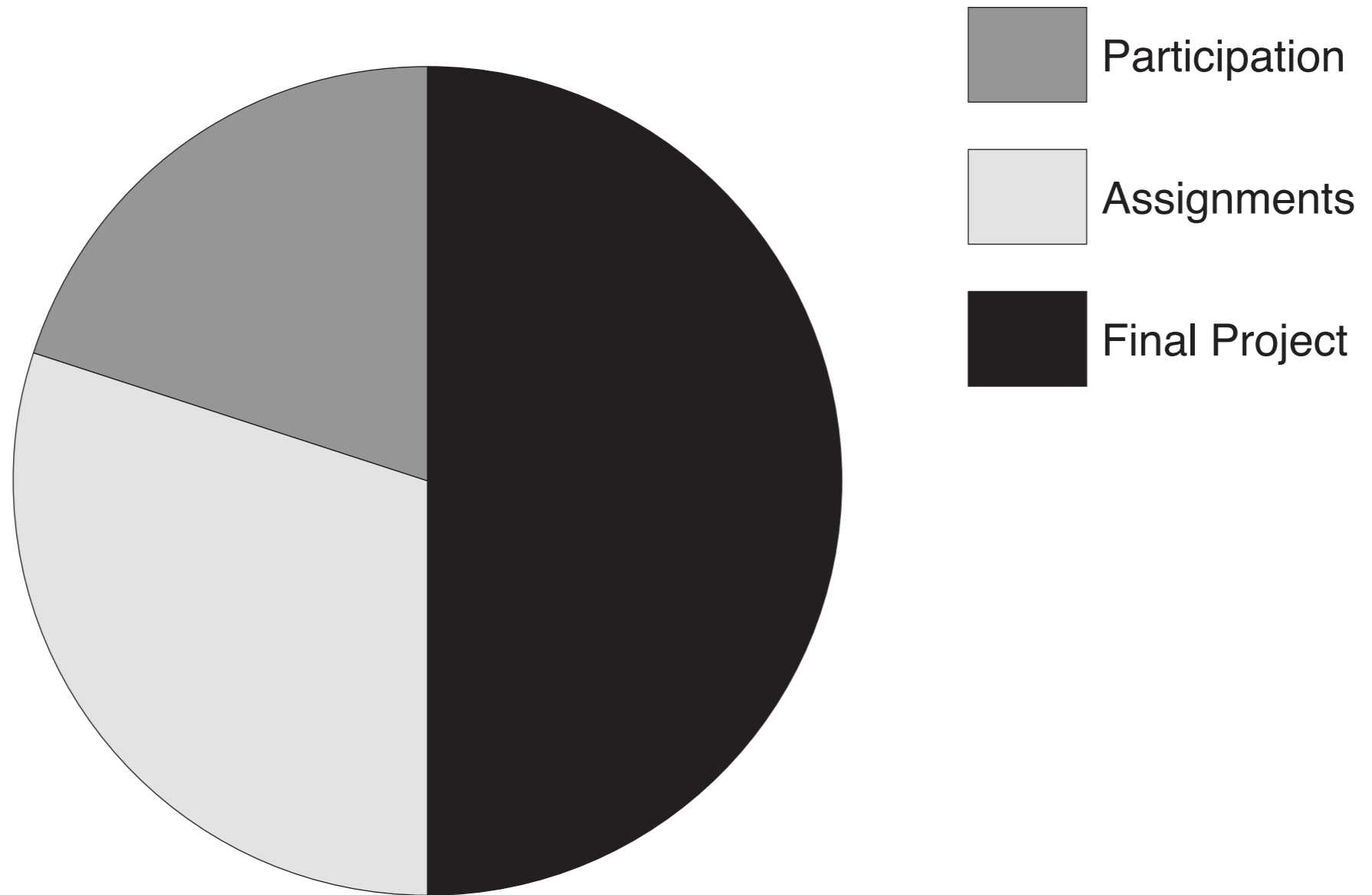
# Let's try it - Bar Chart

## Hard Rock Cafe Openings Worldwide

as of February 14, 2012

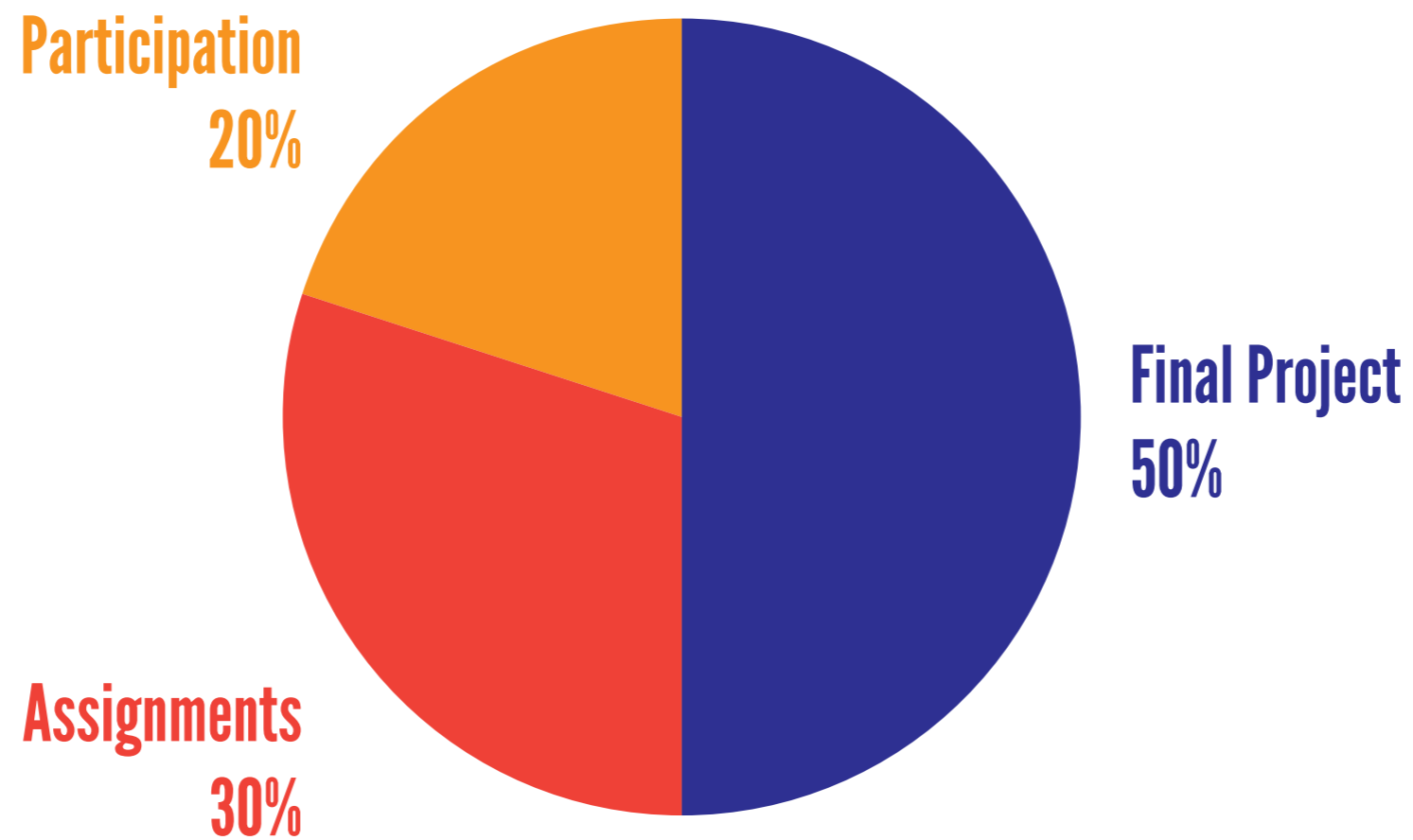


# Pie Chart



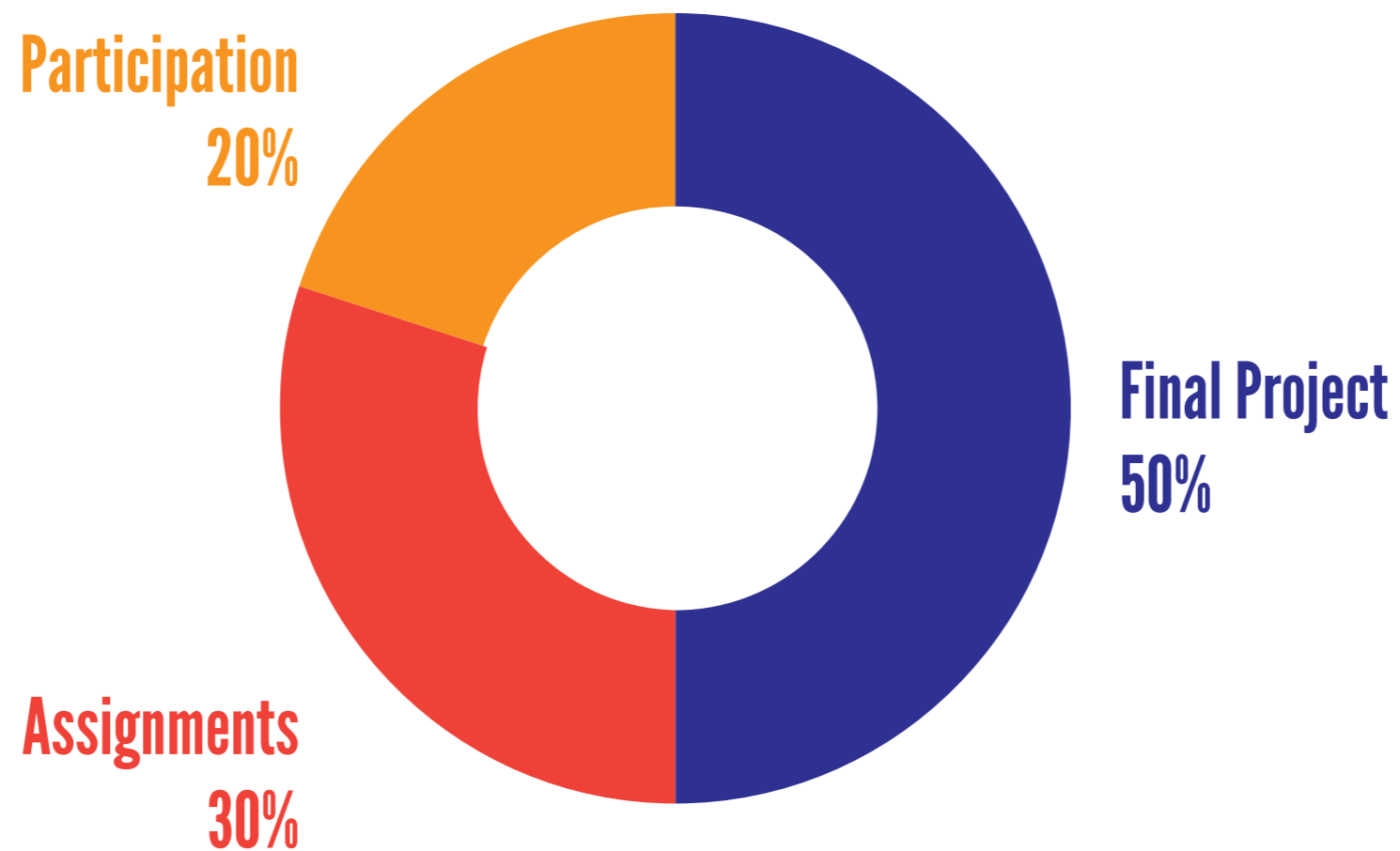
# Pie Chart

## *Grade Breakdown INFO247 (Spring 13)*



# Donut Chart

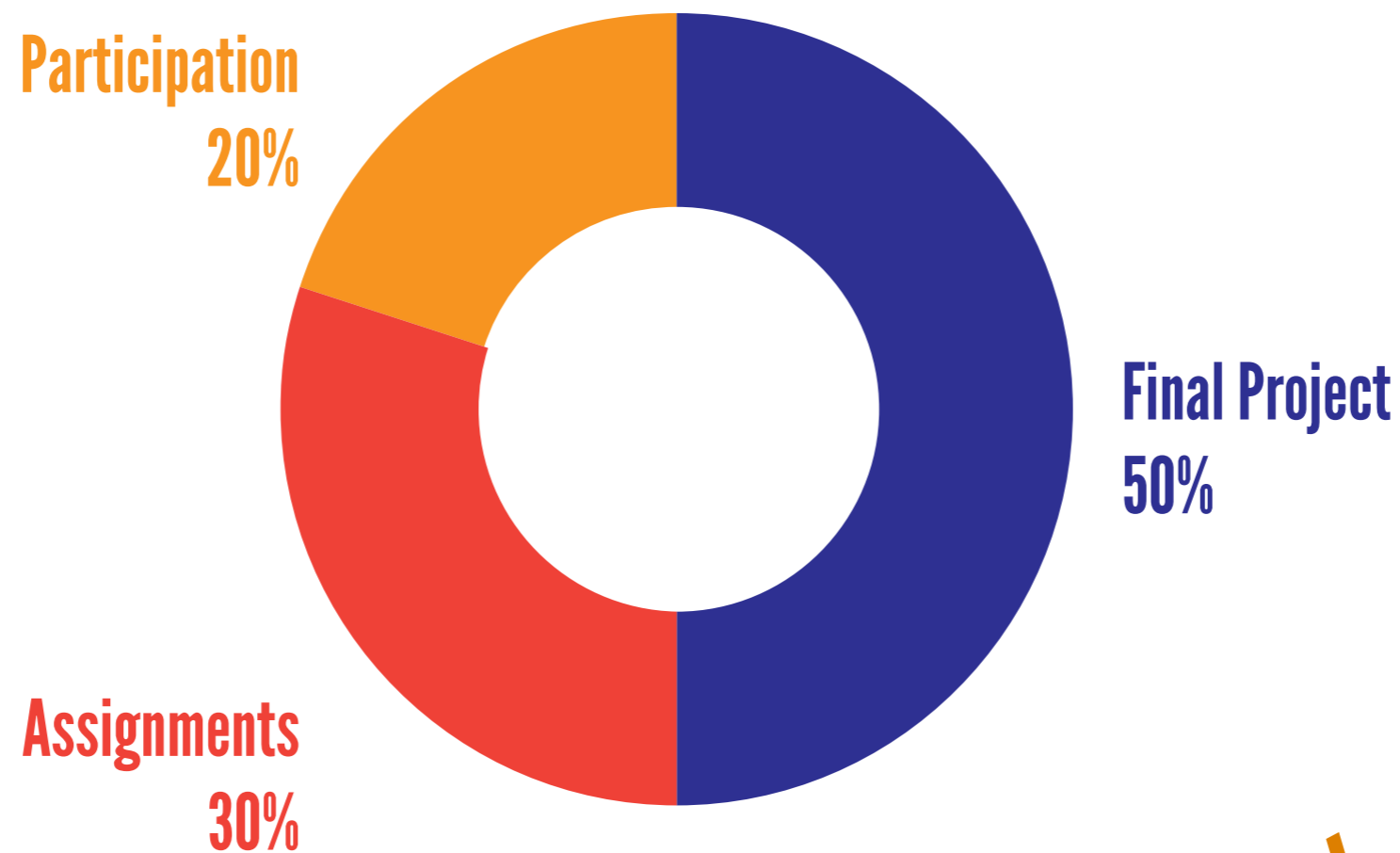
## *Grade Breakdown INFO247 (Spring 13)*





# Donut Chart

## *Grade Breakdown INFO247 (Spring 13)*

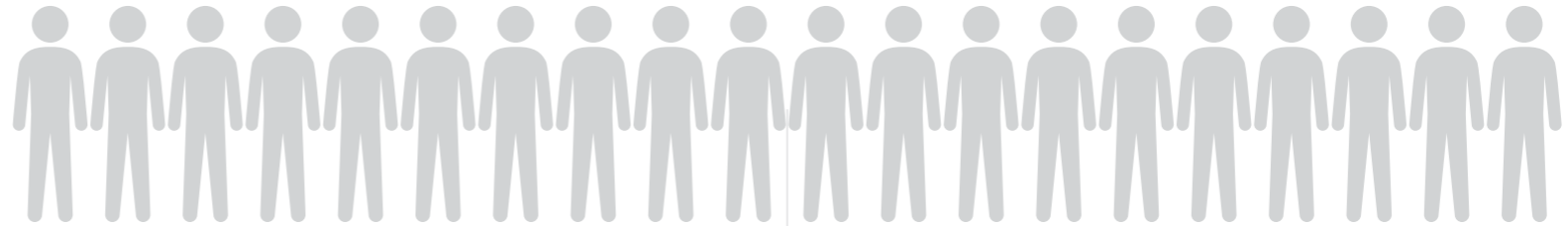
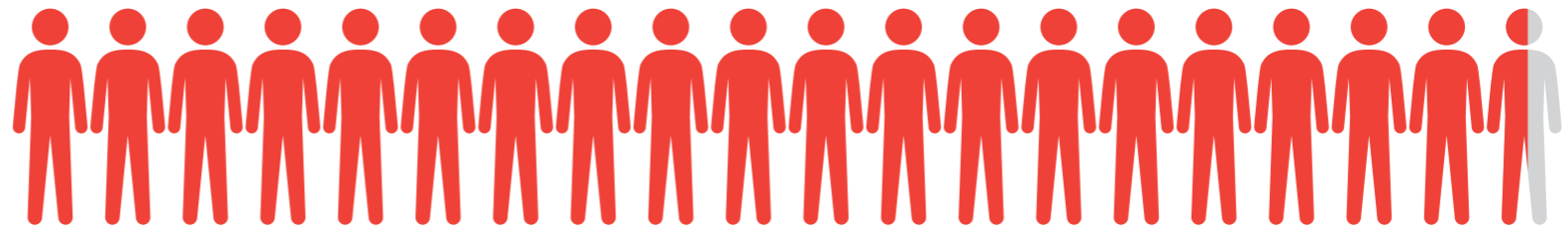


problematic!

# Unit Chart

19.53%

*of the US  
population\*  
receives food  
stamps*



*\* based on civilian  
noninstitutional population.  
Source: USDA*

# Noun Project

The Noun Project English ▾

👤 Login

+ 👤 Sign up

🔄 Upload icons

## All aboard!

a profile and favorites all in one click

 Login with Facebook

Use an email address instead.



★ New

👉 Fresh

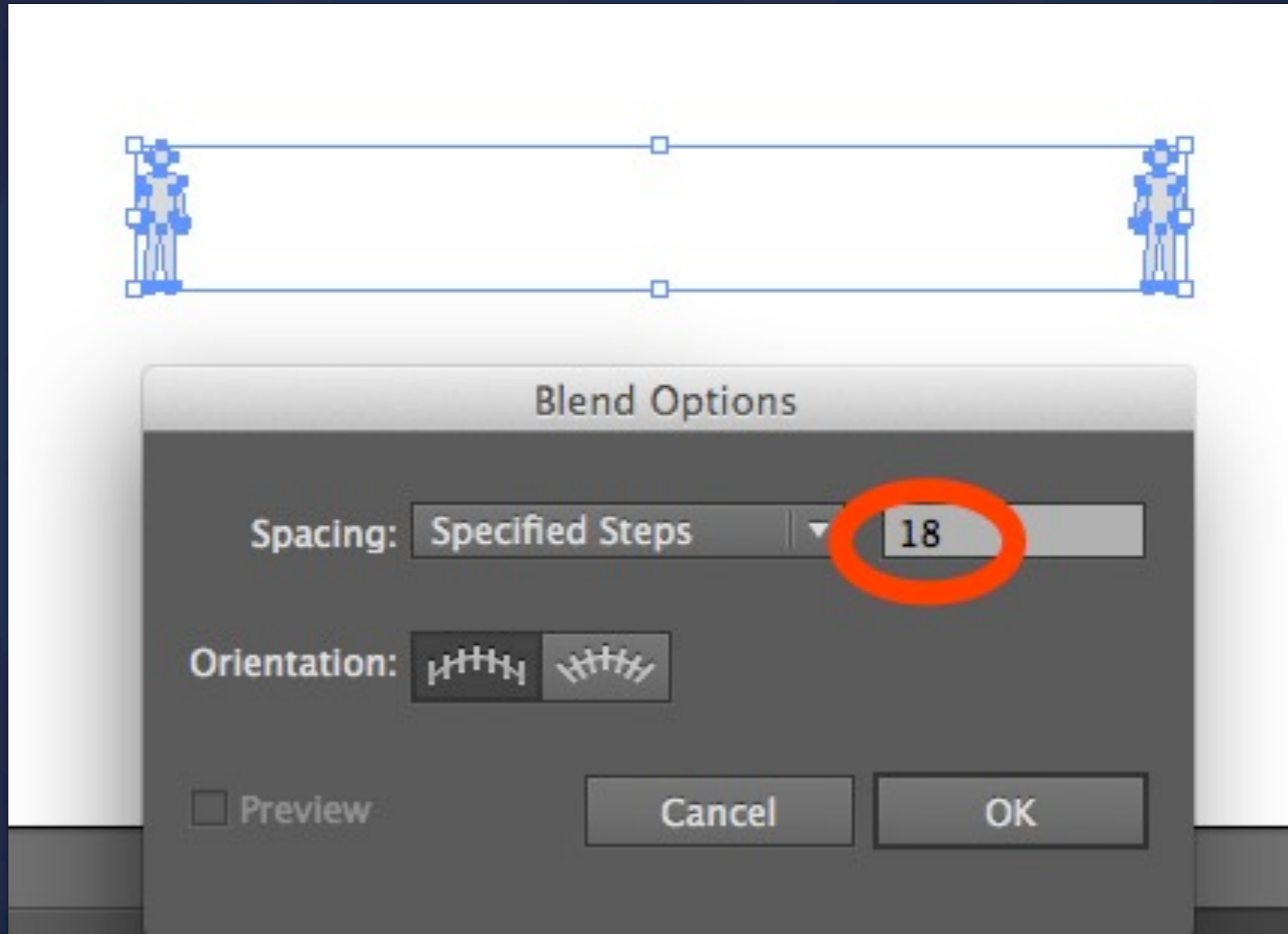
★ Spotlight

👤 Goods

New

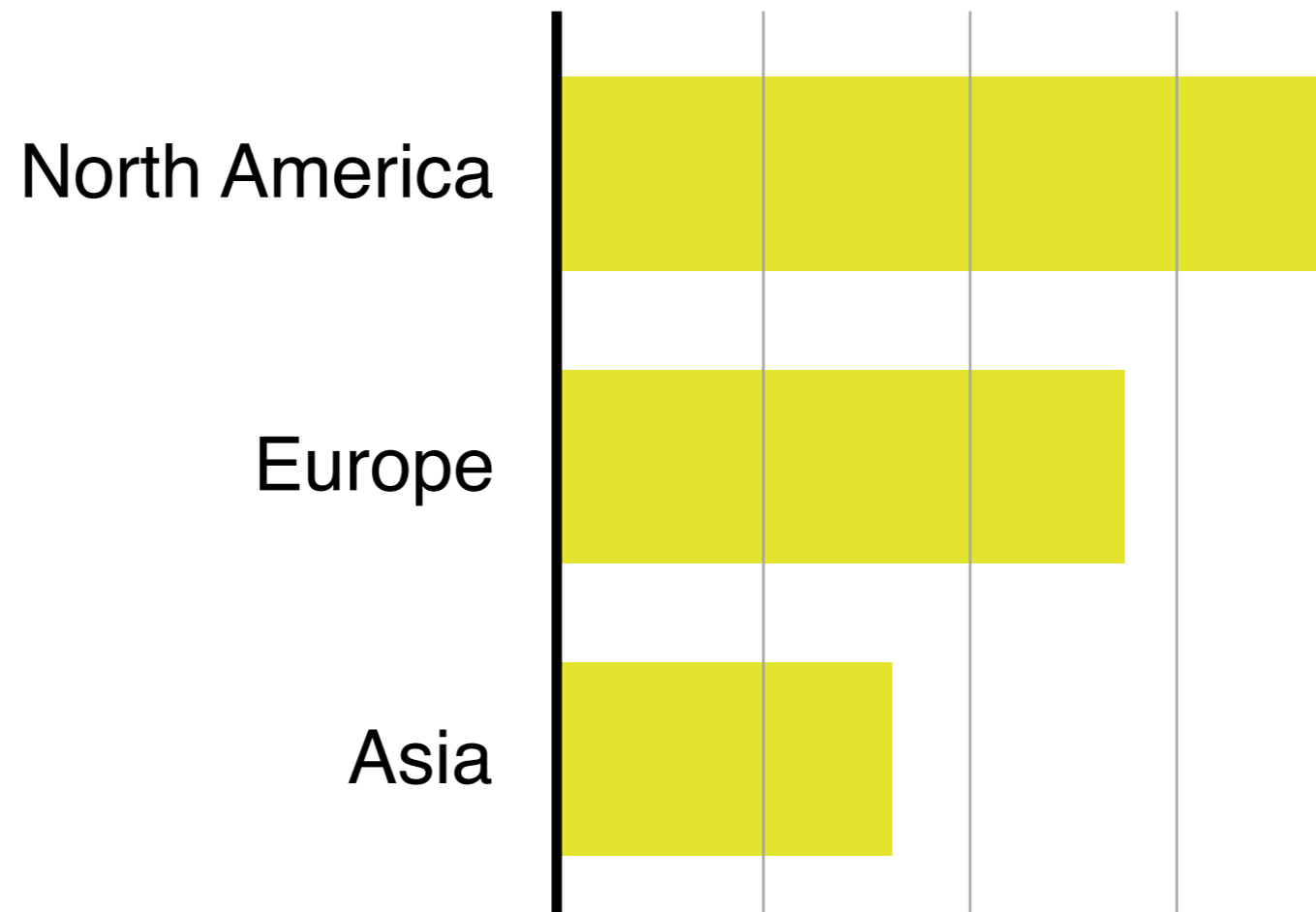
<http://thenounproject.com>

# Unit Chart



# Download from class blog

*small-barchart-export.svg*



# Open the file in Textmate

```
svg-export.svg
1 <?xml version="1.0" encoding="utf-8"?>
2
3 <!-- Generator: Adobe Illustrator 16.0.0, SVG Export Plug-In . SVG Version: 6.00 Build 0) -->
4 <!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">
5
6 <svg version="1.1" xmlns="http://www.w3.org/2000/svg" x="0px" y="0px"
7   width="792px" height="612px" viewBox="0 0 792 612" xml:space="preserve">
8
9
10 <g id="labels">
11   <text transform="translate(92 172)" font-family="Helvetica" font-size="29">North America</text>
12   <text transform="translate(182.5659 285.5)" font-family="Helvetica" font-size="29">Europe</text>
13   <text transform="translate(218.9312 399)" font-family="Helvetica" font-size="29">Asia</text>
14 </g>
15
16
17 <g id="bars">
18   <rect x="300" y="125.5" fill="#BE1E2D" width="300" height="75"/>
19   <rect x="300" y="352" fill="#BE1E2D" width="130" height="75"/>
20   <rect x="300" y="238.75" fill="#BE1E2D" width="220" height="75"/>
21 </g>
22
23
24 <g id="grid-lines">
25   <line fill="none" stroke="#000000" stroke-width="4" x1="300" y1="100" x2="300" y2="450"/>
26   <line fill="none" stroke="#A5A5A5" x1="540" y1="100" x2="540" y2="450"/>
27   <line fill="none" stroke="#A5A5A5" x1="380" y1="100" x2="380" y2="450"/>
28   <line fill="none" stroke="#A5A5A5" x1="460" y1="100" x2="460" y2="450"/>
29 </g>
30
31
32 </svg>
33
```

Line: 16 Column: 1 SVG Soft Tabs: 4

# Scalable Vector Graphics



# HTML & SVG

```
<svg>
```

North America



Europe



Asia



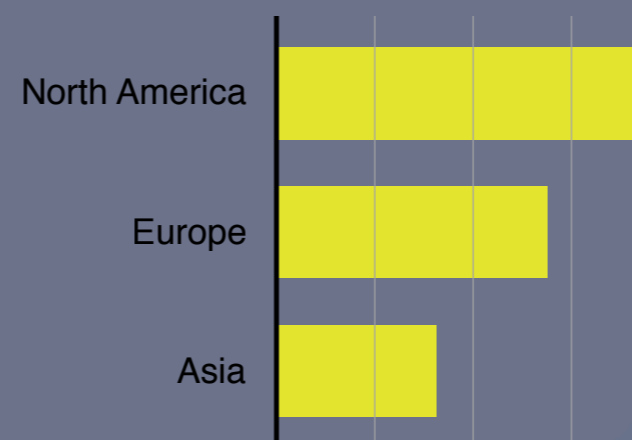
```
</svg>
```



# HTML & SVG

```
<html>
```

```
<svg>
```



```
</svg>
```

```
</html>
```

# **Next Labs**

**Vector graphics in the browser!**

**Raphaël.js and D3.js**

# Announcement

## Assignment 3

**Task** Create an explanatory visualization from a data set of your choice

**Deliverable** Visualizations (Different iterations) and 2 page writeup (500 words)

**Due** Tuesday Feb 26, 3:00PM

- Find a data set you're passionate about.
- Form Hypotheses; iterate on your visualization.
- Tell a story; show iterations.
- You can use any tool you like;

More information on the class blog

# **Next Lecture**

**Perception / Color**