Starboard

shenylin / **lin-sheny-assignment9**

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```
# %% [markdown]
# lin-sheny-assignment9
# %% [markdown]
## Plotting using vega-lite
# %% [markdown]
Import vega-lite:
# %% [javascript]
// these are import calls for specific packages
await import("https://cdn.jsdelivr.net/npm/vega@5.20.2/build/vega.min.js");
await import("https://cdn.jsdelivr.net/npm/vega-lite@5.1.0/build/vega-lite.min.js");
await import("https://cdn.jsdelivr.net/npm/vega-embed@6.18.2/build/vega-embed.min.js");
# %% [javascript]
// see if we have access to the vegaEmbed function:
vegaEmbed
# %% [markdown]
# VIZ 1: LINE CHART
# %% [html]
<div id='buildingWithVega'> </div>
# %%--- [javascript]
# properties:
#   bottom_hidden: true
# ---%%
var myBuildingPlot = {
  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-DataViz/is445_bcubcg_fall2022/
  selection: {
    "brush": {
      "type": "interval"
    }
  },
  mark: {"type": "line", "tooltip":true},
  width:"600", // specify width and height
  height:"300",
  encoding: {
    "x": {"field": "Year Acquired", "type": "quantitative"},
    "y": {"field": "Square Footage", "type": "quantitative"},
    "color": {"condition": {"selection":"brush"}, "value":"red" }
  }
}

var v = vegaEmbed('#buildingWithVega', myBuildingPlot)
```

```
# %% [markdown]
## Write-up


1. **What features you are highlighting with your viz?**

The first visualization was created to highlight the relationship of “acquired year“ and “squa

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2. **The design choices you made (choices of scales, marks, colors, etc) to visualize your dat

I chose to go with a simple line graph because it simply describes the relationships between t

\

3. **What you would like to change if you had more time**

If I had more time, I would like to make only selected grid changes its color into red instead
# %% [markdown]
# VIZ 2: COLORED SCATTERPLOT
# %% [html]
<div id='buildingWithVega2'> </div>
# %% [javascript]
var myBuildingPlot2 = {
  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-DataViz/is445_bcubcg_fall2022/
  },
  mark: "point",
  width:"600", // specify width and height
  height:"300",
  encoding: {
    "x": {"field": "Year Acquired", "type": "quantitative",
         "scale": {"zero": false}
         },
    "y": {"field": "Square Footage", "type": "quantitative",
         "scale": {"zero": false}
         },
    "color": {"field": "Bldg Status", "type": "nominal"},
    "shape": {"field": "Bldg Status", "type": "nominal"}
    }
}

var v = vegaEmbed('#buildingWithVega2', myBuildingPlot2)
# %% [markdown]
## Write-up


1. **What features you are highlighting with your viz?**

The second visualization was created to highlight the “status“ of the building in the relation
```

```
\

2. **The design choices you made (choices of scales, marks, colors, etc) to visualize your dat

The reason that I chose to go with a colored scatterplot is because it shows buildings in dif

\

3. **What you would like to change if you had more time?**

If I had more time, I would like to zoom in to buildings in year of 1800-2022 for viewers to
# %% [markdown]
# Reference

used code from class: <https://starboard.gg/jnaiman/prep_notebook_week08_fall2022-nw1HAOm>
```

MARKDOWN

lin-sheny-assignment9

MARKDOWN

Plotting using vega-lite

MARKDOWN

Import vega-lite:

JAVASCRIPT

```
// these are import calls for specific packages
await import("https://cdn.jsdelivr.net/npm/vega@5.20.2/build/vega.min.js");
await import("https://cdn.jsdelivr.net/npm/vega-lite@5.1.0/build/vega-lite.min.js
await import("https://cdn.jsdelivr.net/npm/vega-embed@6.18.2/build/vega-embed.mir
```

JAVASCRIPT

```
// see if we have access to the vegaEmbed function:
vegaEmbed
```

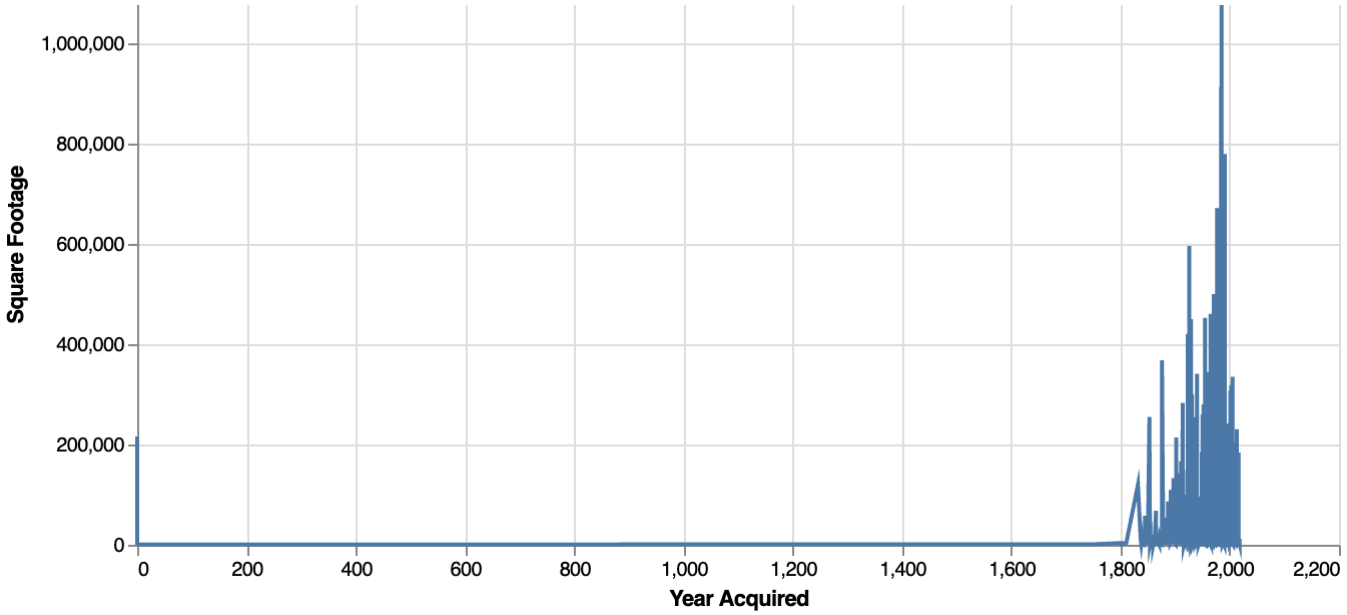
```
▶ ƒ bi() {}
```

MARKDOWN

VIZ 1: LINE CHART

HTML

```
<div id='buildingWithVega'> </div>
```



JAVASCRIPT

```javascript
var myBuildingPlot = {
  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-DataViz/is445_bc
  selection: {
    "brush": {
      "type": "interval"
    }
  },
  mark: {"type": "line", "tooltip":true},
  width:"600", // specify width and height
  height:"300",
  encoding: {
    "x": {"field": "Year Acquired", "type": "quantitative"},
    "y": {"field": "Square Footage", "type": "quantitative"},
    "color": {"condition": {"selection":"brush"}, "value":"red" }
  }
}

var v = vegaEmbed('#buildingWithVega', myBuildingPlot)
```

MARKDOWN

Write-up

1. **What features you are highlighting with your viz?**

The first visualization was created to highlight the relationship of “acquired year“ and “square footage“ of those buildings.

2. **The design choices you made (choices of scales, marks, colors, etc) to visualize your data appropriately**

I chose to go with a simple line graph because it simply describes the relationships between

the highlighted factors. As for colors, it is blue when it is static, but it becomes red when the user selects a certain area.

3. **What you would like to change if you had more time**

If I had more time, I would like to make only selected grid changes its color into red instead of changing the color of the whole graph in order to “highlight“ certain data.

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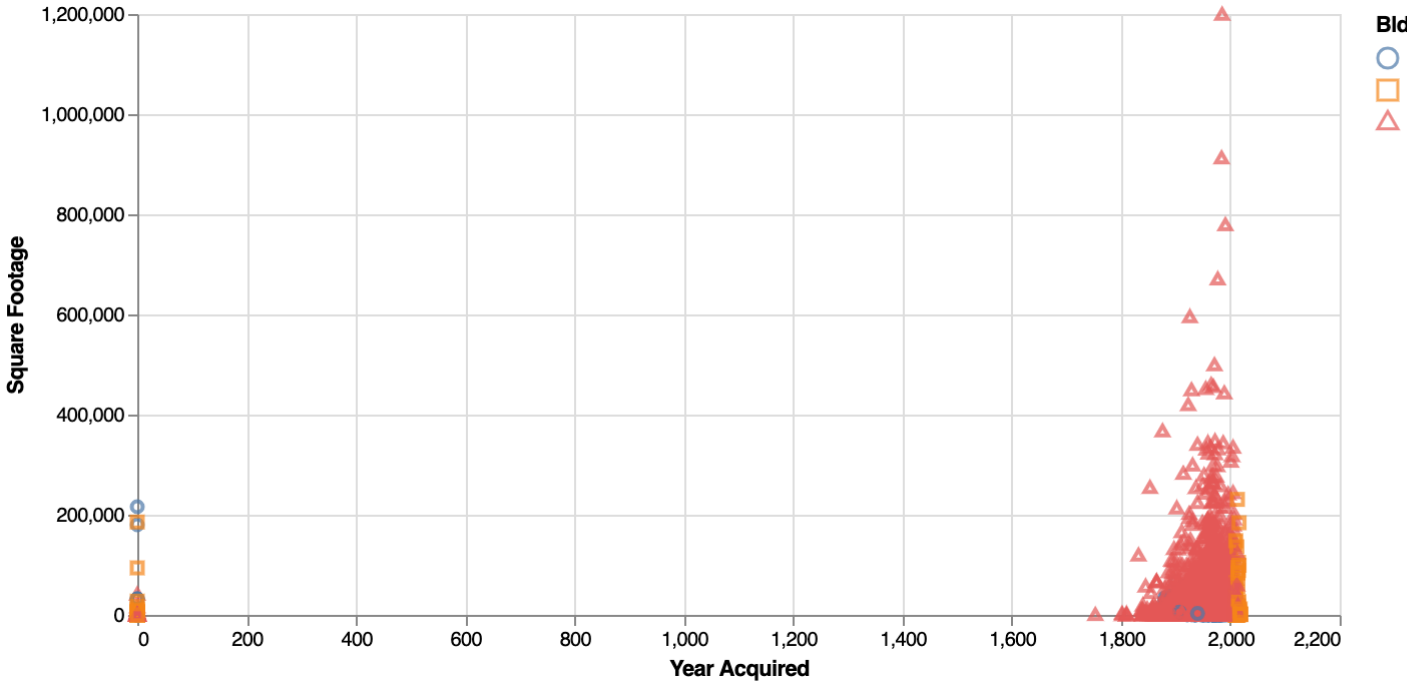
VIZ 2: COLORED SCATTERPLOT

HTML

```
<div id='buildingWithVega2'> </div>
```



JAVASCRIPT

```
var myBuildingPlot2 = {
  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-DataViz/is445_bc
  },
  mark: "point",
  width:"600", // specify width and height
  height:"300",
  encoding: {
    "x": {"field": "Year Acquired", "type": "quantitative",
         "scale": {"zero": false}
         },
    "y": {"field": "Square Footage", "type": "quantitative",
         "scale": {"zero": false}
         },
    "color": {"field": "Bldg Status", "type": "nominal"},
```

```
    "shape": {"field": "Bldg Status", "type": "nominal"}
    }
}

var v = vegaEmbed('#buildingWithVega2', myBuildingPlot2)
```

```
The compiled spec uses Vega v5, but current version is v5.20.2.
```

MARKDOWN

Write-up

1. **What features you are highlighting with your viz?**
The second visualization was created to highlight the “status“ of the building in the relationship between “acquired year“ and “square footage“. As shown in the plot, most buildings are “In Use“ and several most recent buildings are “In Progress“.

2. **The design choices you made (choices of scales, marks, colors, etc) to visualize your data appropriately**
The reason that I chose to go with a colored scatterplot is because it shows buildings in different status in different marks and colors which makes it very easy for viewers to differentiate buildings in different status.

3. **What you would like to change if you had more time?**
If I had more time, I would like to zoom in to buildings in year of 1800-2022 for viewers to look into data that is more recent and relevant.

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