```
# %% [markdown]
# gadomski-john-homework-9

Try editing this cell by clicking the pencil on the left!

# %%--- [javascript]
# properties:
#   run_on_load: true
# ---%%

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]
vegaEmbed

# %% [html]
<div id='licenseWithVega'> </div>

# %% [javascript]
var myLicensePlot = {
  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-
DataViz/is445_bcubcg_fall2022/main/data/licenses_fall2022.csv"},

  mark: "line",

  width:"1000",

  height:"300",

  encoding: {

   "x": {"field": "LastModifiedDate", "type": "temporal"},

   "y": {"field": "Zip", "type": "quantitative"}

  }

}


var v = vegaEmbed('#licenseWithVega', myLicensePlot)

# %% [markdown]
```

(Using licensing dataset) For the visualization above, I chose to use the LastModifiedDate variable, and combine that with zip, to visualize the relationship between zip codes, and the last modified date on licenses. As expected, there is little no correlation between these two variables, since zip code does not seem to impact the last modified date on licenses. However, we do see a large spike in modifications in both 2022 and 2006. This could be because of economic instability. I chose a line graph to emphasize the changes between the dates. For design purposes, I didn't change the marker type, and didn't adjust any colors. I scaled the visualization so it would more appropriately fit the data in the graph.

%% [html]

<div id='licenseWithVega1'> </div>

%% [javascript]

```
var myLicensePlot1 = {

  data: {"url": "https://raw.githubusercontent.com/UIUC-iSchool-
DataViz/is445_bcubcg_fall2022/main/data/licenses_fall2022.csv"},

  mark: "line",

  width:"800",

  height:"200",

  encoding: {

    "x": {"field": "Discipline End Date", "type": "nominal"},

    "y": {"field": "Zip", "type": "quantitative"}

  }
}


var v = vegaEmbed('#licenseWithVega1', myLicensePlot1)
```

%% [markdown]

For my second visualization, I chose to visualize the discipline end date, and compare that to zip code as well. In order to visualize the data, I need to change the type of the data to nominal, as opposed to temporal. There are a few instances in which the zip code is lower for some specific dates. For design purposes, I didn't change the marker type, and didn't adjust any colors. I scaled the visualization so it would more appropriately fit the data in the graph.