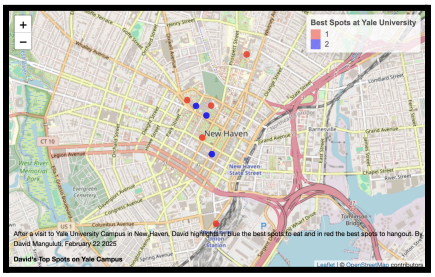
Spatial (Yale) Visualisation

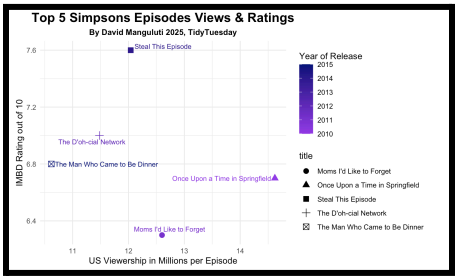
```
leaflet(data = fave_yale)|>
  addProviderTiles(providers$OpenStreetMap)|>
  addCircles(weight = 10, opacity = 0.8, color =
~pal(favorite), label = ~place)|>
  addLegend(position = "topright", pal = pal, values =
~favorite, title = "Best Spots at Yale University")|>
  addControl("<strong>David's Top Spots on Yale
Campus</strong>", position = "bottomleft", className =
"map-title") |>
  addControl("After a visit to Yale University…", position =
"bottomleft", className = "map-caption")
```



Quad (Simpsons) Visualisation

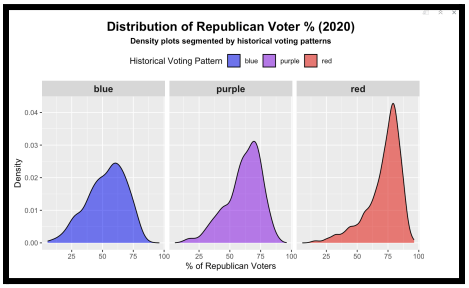
```
topepisodes <- simpsons_episodes |>
  count(us_viewers_in_millions) |>
  filter(us_viewers_in_millions > 10) |>
  inner_join(simpsons_episodes, by = "us_viewers_in_millions")

ggplot(topepisodes,aes(x=us_viewers_in_millions, y=imdb_rating,
color = original_air_year, shape = title))+
  geom_point(size = 3)+
  geom_text_repel(aes(label = title), size = 3, max.overlaps = 10) +
  scale_color_gradient(low="purple", high = "navy")+
  geom_smooth()+
  theme_minimal()+
  labs(title = "Top 5 Simpsons Episodes Views & Ratings", subtitle
= "By David Manguluti 2025, TidyTuesday", x="US Viewership in
Millions per Episode", y="IMBD Rating out of 10", color = "Year
of Release")+
  theme( plot.title = element_text(face = "bold", size = 16, hjust =
0.5),strip.text = element_text(size = 12, face = "bold"),
    plot.subtitle = element_text(face = "bold", size = 10, hjust =
                                                        0.5))
```



#| fig-alt: "A graph that shows three faceted plot…"

```
ggplot(elections, aes(x = repub_pct_20, fill = historical)) +
  geom_density(alpha = 0.6) +
  scale_fill_manual(values = c("blue", "purple", "red")) +
  facet_wrap(~ historical)+
  theme(legend.position = "top",
    plot.title = element_text(face = "bold", size = 16, hjust =
0.5),strip.text = element_text(size = 12, face = "bold"),
    plot.subtitle = element_text(face = "bold", size = 10,
hjust = 0.5)) +
  labs(title = "Distribution of Republican Voter % (2020)",
    subtitle = "Density plots segmented by historical voting
patterns",
    x = "% of Republican Voters",
    y = "Density",
    fill = "Historical Voting Pattern")
```



Appropriate Visualisations:

Necessary Add Ons:

- to make a plot - ggplot(x , aes(x = , y =))
- to make a histogram for x - geom_histogram(color = "x")
- to adjust the width of each graph - geom_x(binwidth = A)
- to label the axis - labs(x = , y =)
- to change opacity - geom_x (alpha = x)
- to make separate facets of the plots - facet_wrap(~ x)
- to add a third variable:
  - Color: geom_x(aes(fill = c))
  - Shape: geom_x(aes(shape = c))
  - Opacity: (geom_x(aes(alpha = c))
- to change the background map: addProviderTiles("USGS")
- to see all available base maps, type providers in the console.
- to mark locations with dots add: Circles(weight = A, opacity = B, color = "hex_color")
  - weight = thickness of the circles
  - opacity = transparency (like alpha in ggplot2)
  - Colors should be in **hex format** (convert using col2hex() from the **gplots** package)
- **To connect points with lines:** to connect points with lines add: Polylines(lng = ~longitude, lat = ~latitude, color = "hex_color")
- **Alternative way to mark locations:** addMarkers()

Functions

Visualisation	Uni + Quant	Uni + Cat	Bi + Quant	Bi + Cat	Bi + Quant + ...
Density Plot (geom_density)	☑	☐	☐	☐	☐
Histogram (geom_his..)	☑	☐	☐	☐	☐
Scatter Plots (geom_point)	☐	☐	☑	☐	☐
Bar Charts (geom_bar)	☐	☑	☐	☑	☑
Side-by-Side Violins (geom_violin)	☐	☐	☐	☐	☑
Boxplots (geom_box..)	☑	☐	☐	☐	☑
Ridge Plots/ Joy Plots (geom_density_	☐	☐	☐	☐	☐