

Informattion Science3

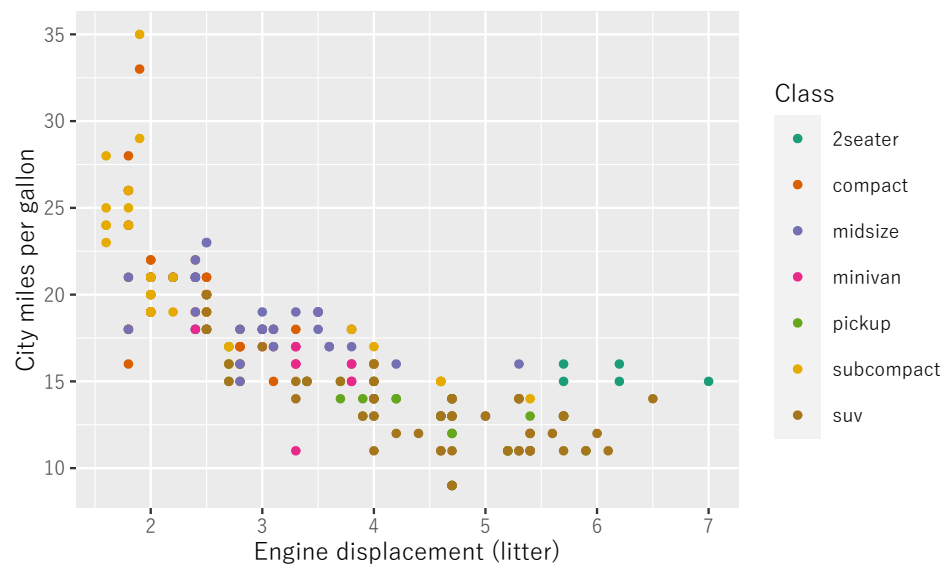
Assignment3

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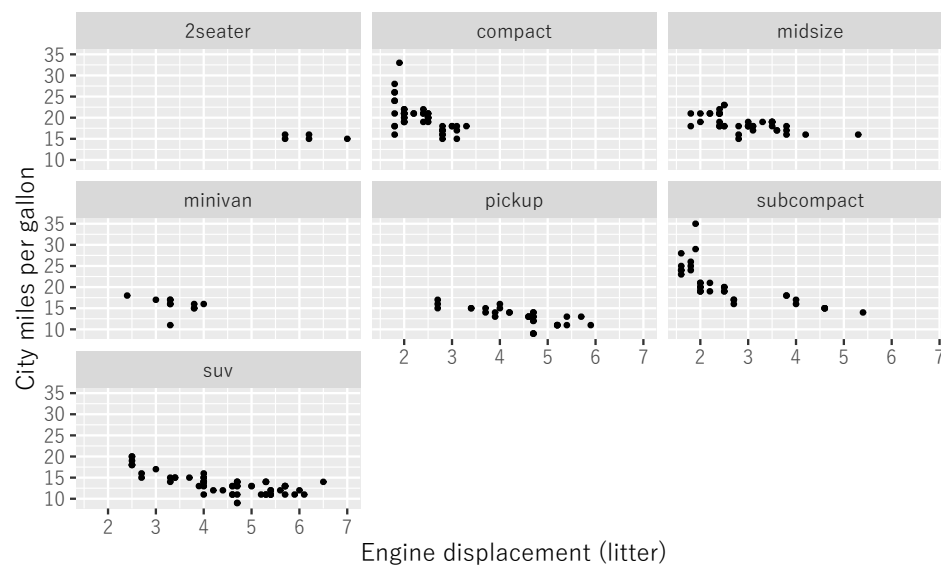
2022-11-04

1

```
mpg %>%
  group_by(class) %>%
  summarise(cty,
            displ,
            .groups = "drop") %>%
  ggplot() +
  geom_point(aes(x = displ, y = cty, color = class), size = 1) +
  scale_color_brewer(palette = "Dark2") +
  labs(x = "Engine displacement (litter)", y = "City miles per gallon", color = "Class")
```

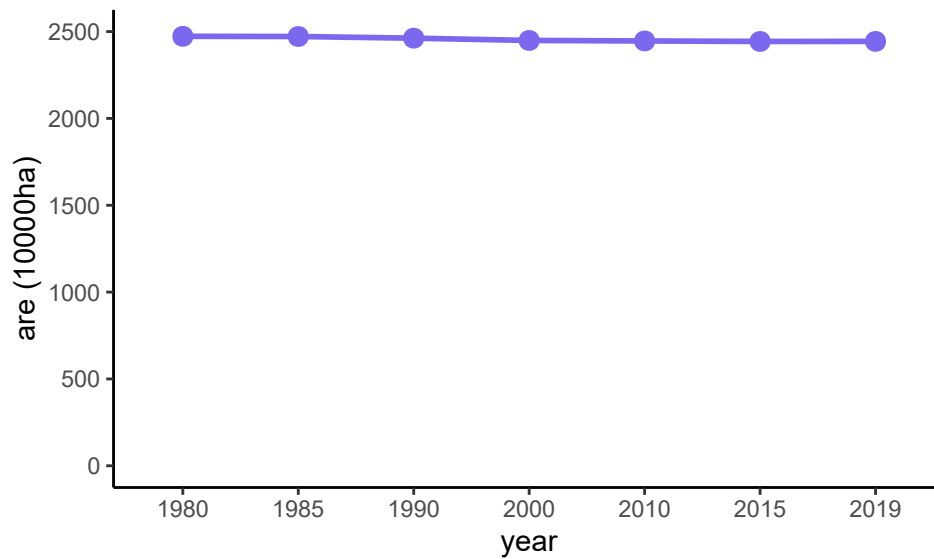


```
mpg %>%
  group_by(class) %>%
  summarise(cty,
            displ,
            .groups = "drop") %>%
  ggplot() +
  geom_point(aes(x = displ, y = cty, color = class), color = "black", size = 0.5) +
  labs(x = "Engine displacement (litter)", y = "City miles per gallon") +
  facet_wrap(~ class, ncol = 3)
```



2

```
ggplot(economics, aes(x = date, y = unemploy)) +
  geom_rect(data = presidential, aes(NULL, NULL,
                                     xmin = start, xmax = end, fill = party),
           ymin = 0, ymax = 16000, alpha = 0.4, alpha = 0.1, colour = "gray") +
  geom_line(size = 0.5) +
  scale_fill_manual(values = c("Democratic" = "#6495ED",
                              "Republican" = "#F08080")) +
  geom_text(data=presidential, aes(x=start, y=3000, label=name), size=2, hjust = 0) +
  labs(title = "Unemployment in the US", x = "Date", y = "Unemployment",
       fill = "Government")
```

This graph show forest area in Japan from 1980-2019(統計 Dashboard). The best thing about this graph is that it allows interactive manipulation. The viewer can see more detailed values by moving the cursor over the line. However, this graph has some improvements. Since this graph uses a line graph, it can be inferred that the purpose is to convey changes in forest area over time. In this graph, the y-axis starts at 0, making it difficult to see the degree of change. If the creator of this graph wants to claim that “forest area is declining” they need to adjust the y-axis. In addition, the x-axis also needs to be improved as the period and width of the axis do not match. In the image below, the width of the y-axis has been adjusted, and the width the x-axis corresponds to “year”

```
data %>%
  ggplot(aes(x = year, y = values/10000, group = 1)) +
  geom_line(colour = "#7B68EE", size = 1) +
  geom_point(size = 3, colour = "#7B68EE", fill = "#7B68EE") +
  labs(x = "Year", y = "ara (10000 ha)") +
  scale_x_continuous(breaks = c(1980, 1985, 1990, 2000, 2010, 2015, 2019),
                     labels = c(1980, 1985, 1990, 2000, 2010, 2015, 2019)) +
  ggtitle("Forest area")
```

