Line Plot and Time Series

2022-07-17

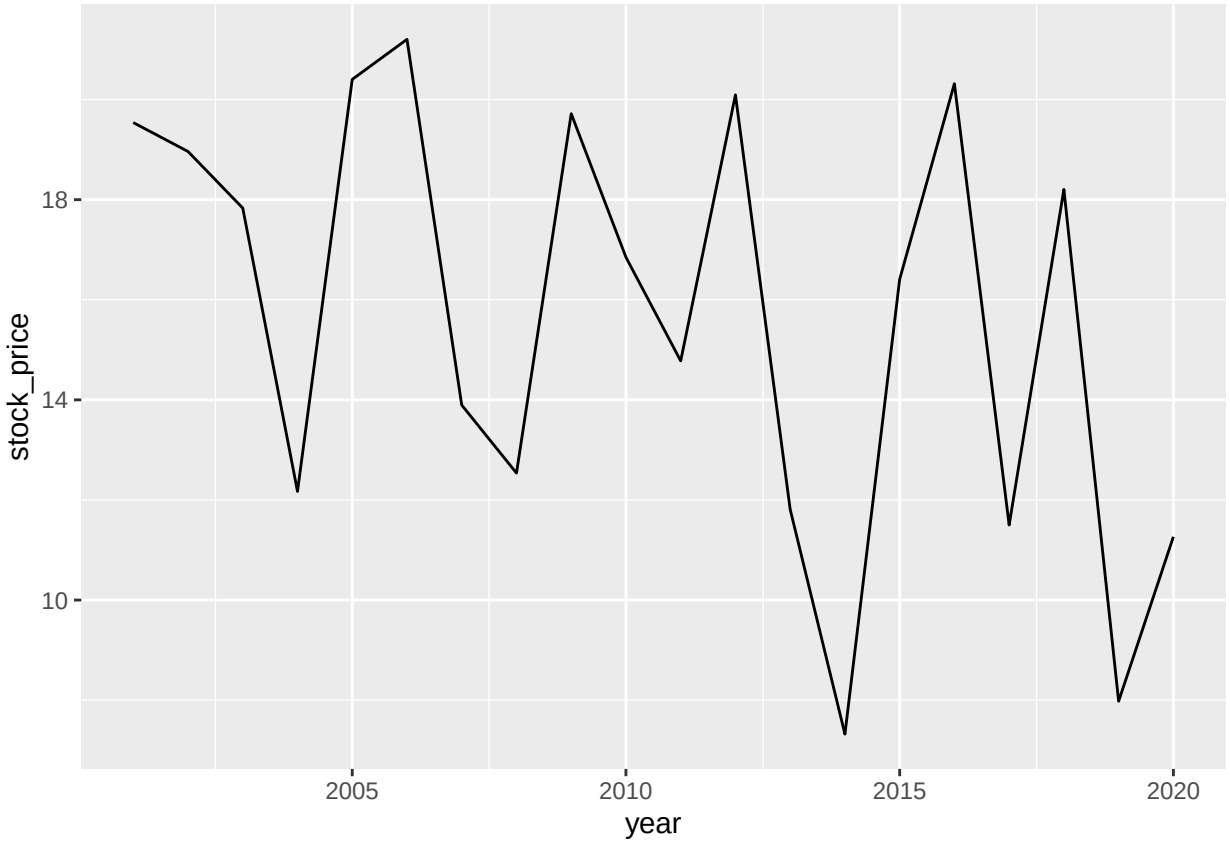
Create a Dummy Dataset

```
years <- seq(from = 2001, to = 2020, by = 1)

price <- rnorm(20, mean = 15, sd = 5)

# put years and price together
fig_data <- tibble("year" = years, "stock_price" = price)
```

Line Plot

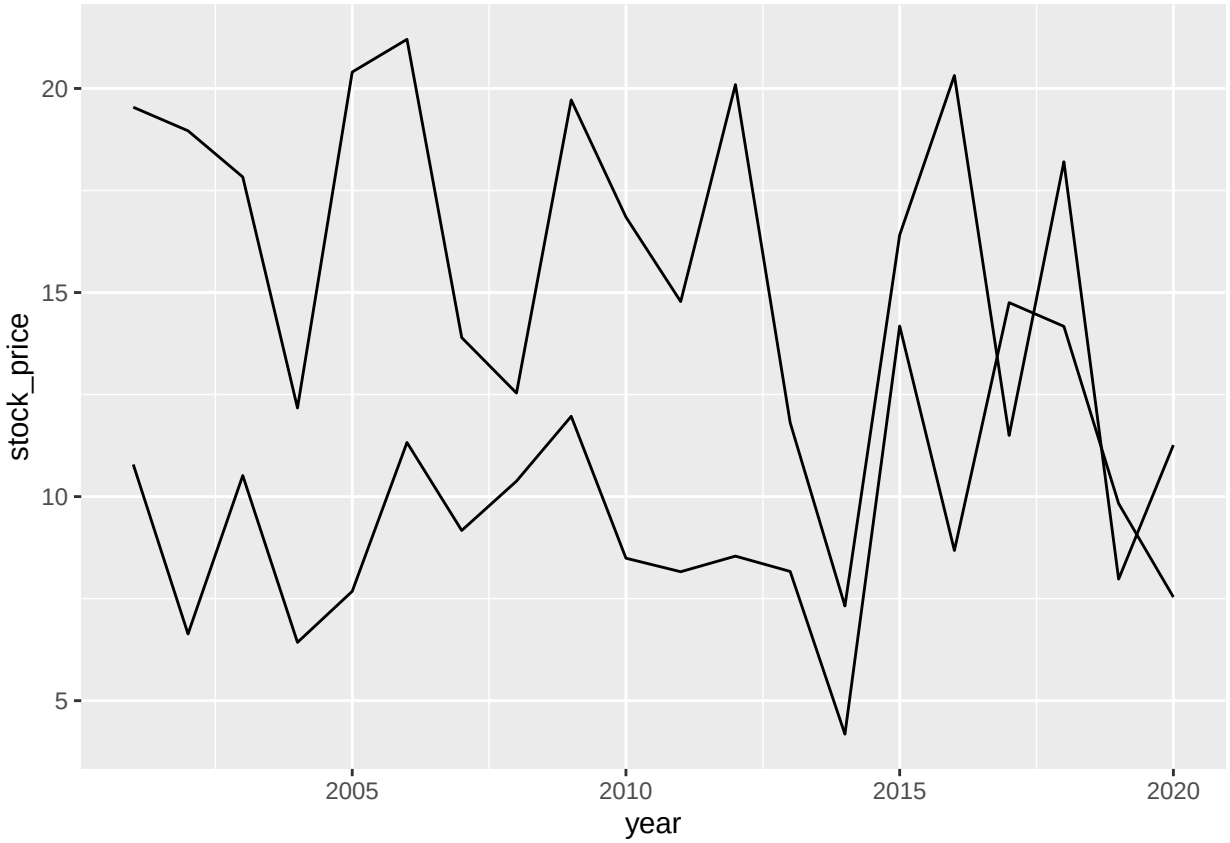
Line Plot - 1

```
ggplot(fig_data, aes(x = year, y = stock_price))+
  geom_line()
```



Line Plot - 2

```
# Make data for the first of two stocks
fig_data$stock_id <- rep("stock_1", 20)
stock_1_time_series <- fig_data

# Make data for the second company
years <- seq(from = 2001, to = 2020, by = 1)
price <- rnorm(20, mean = 10, sd = 3)
stock_id <- rep("stock_2", 20)

stock_2_time_series <- tibble("year" = years, "stock_price" = price, "stock_id" = stock_id)

# combine the data using bind_rows()
all_stocks_time_series <- bind_rows(stock_1_time_series, stock_2_time_series)

# make the plot, setting group to stock_id
ggplot(all_stocks_time_series, aes(x = year, y = stock_price, group = stock_id))+
  geom_line()
```




```
# modify group, linetype, color, and facet_wrap()
ggplot(all_stocks_time_series, aes(x = year, y = stock_price, group = stock_id, line_type = stock_id, c
  geom_line()+
  facet_wrap(~stock_id)
```

Line Plot - 3

```
# Let's practice using another dataset
cel <- read_csv("cel_dataset_coursera.csv")
```

```
## Rows: 10262 Columns: 38
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (2): thomas_name, st_name
## dbl (36): thomas_num, icpsr, congress, year, cd, dem, elected, female, votep...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
cel$party <- recode(cel$dem, '1' = "Democrat", '0' = "Republican")

fig_data <- cel %>%
  group_by(party, year) %>%
  summarize("ideology" = mean(dwnom1, na.rm = T))
```

```
## `summarise()` has grouped output by 'party'. You can override using the
## `.groups` argument.
```

```r
# View(fig_data)

# Let's make the plot
ggplot(fig_data, aes(x = year, y = ideology, group = party, color = party))+
  geom_line()+
  scale_color_manual(values = c("blue", "red"))
```