Pset1

Problem #1

```r
# problem 1(a)
vdem <- read_csv("/Users/oneone/Library/Mobile Documents/com~apple~CloudDocs/MIT/Fall 2025/Ma

# problem 1(b)
nrows <- nrow(vdem) # vdem has 26537 rows
ncols <- ncol(vdem) # vdem has 20 columns

# problem 1(c)

vdem_trimmed <- vdem[, c("country_name", "year", "v2x_polyarchy", "v2x_libdem")] # base r ver

vdem_trimmed <- vdem %>%
  dplyr::filter(year >= 2000 & year <= 2017) %>%
  select(country_name, year, v2x_polyarchy, v2x_libdem) #tidyr version

# problem 1(d)
head(vdem_trimmed)
```

```
# A tibble: 6 x 4
  country_name  year v2x_polyarchy v2x_libdem
  <chr>        <dbl>         <dbl>      <dbl>
1 Afghanistan   2000        0.0731     0.0234
2 Afghanistan   2001        0.0878     0.0329
3 Afghanistan   2002        0.228      0.0892
4 Afghanistan   2003        0.230      0.0913
5 Afghanistan   2004        0.240      0.0976
6 Afghanistan   2005        0.339      0.135
```

```
(head.table <- vdem_trimmed %>%
    head() %>%
  kbl() )
```

country__name	year	v2x__polyarchy	v2x__libdem
Afghanistan	2000	0.0730887	0.0234141
Afghanistan	2001	0.0878012	0.0329493
Afghanistan	2002	0.2283727	0.0892368
Afghanistan	2003	0.2295131	0.0913300
Afghanistan	2004	0.2399107	0.0975843
Afghanistan	2005	0.3387622	0.1353097

```
# problem 1(e)
log.poly <- log(vdem_trimmed$v2x_polyarchy)
log.lib <- log(vdem_trimmed$v2x_libdem)

    ## base r verion
vdem_trimmed$log_polyarchy <- log.poly
vdem_trimmed$log_libdem <- log.lib

    ## tidyr version
vdem_trimmed <- vdem_trimmed %>%
  mutate(
    log_polyarchy = log.poly,
    log_libdem = log.lib
  )

# problem 1(f)

sum.table <- vdem_trimmed %>%
  summarise(v2x_polyarchy_mean = mean(v2x_polyarchy, na.rm = TRUE),
            v2x_polyarchy_sd = sd(v2x_polyarchy, na.rm = TRUE),
            v2x_polyarchy_max = max(v2x_polyarchy, na.rm = TRUE),
            v2x_polyarchy_min = min(v2x_polyarchy, na.rm = TRUE),
            v2x_libdem_mean = mean(v2x_libdem, na.rm = TRUE),
            v2x_libdem_sd = sd(v2x_libdem, na.rm = TRUE),
            v2x_libdem_max = max(v2x_libdem, na.rm = TRUE),
            v2x_libdem_min = min(v2x_libdem, na.rm = TRUE),
             )

view(sum.table)
```