P8105_hw4_km3304

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```
# clean pols-month data set

pols_month = read_csv(file = "./fivethirtyeight_datasets/pols-month.csv") %>%
  clean_names() %>%
  # change day of month to first day
  mutate(mon = lubridate::floor_date(mon, unit = "month")) %>%
  separate(mon, into= c("year", "month", "day"),
           sep = "-", convert = TRUE) %>%
  arrange(year, month) %>%
  mutate(month = month.name[month]) %>%
  #recode president data
  mutate (prez_dem = recode(prez_dem, '1' = "dem", '0' = "gop")) %>%
  mutate (prez_gop = recode(prez_gop, '0' = "dem", '1' = "gop", '2' = "gop"))
```

```
## Parsed with column specification:
## cols(
##   mon = col_date(format = ""),
##   prez_gop = col_integer(),
##   gov_gop = col_integer(),
##   sen_gop = col_integer(),
##   rep_gop = col_integer(),
##   prez_dem = col_integer(),
##   gov_dem = col_integer(),
##   sen_dem = col_integer(),
##   rep_dem = col_integer()
## )
```

```
if (pols_month$prez_gop == pols_month$prez_dem){pols_month$president = pols_month$prez_gop}
```

```
## Warning in if (pols_month$prez_gop == pols_month$prez_dem) {: the condition
## has length > 1 and only the first element will be used
```

```
# select and arrange information
pols_month <- select(pols_month, -prez_gop, -prez_dem, -day) %>%
  select(year, month, everything())


#clean GDP data set, arrange by year, month, and change month from numeric to names

GDP = read_csv(file = "./fivethirtyeight_datasets/GDP.csv") %>%
  clean_names() %>%
  separate(date, into= c("year", "month", "day"),
           sep = "-", convert = TRUE) %>%
  arrange(year, month) %>%
  mutate(month = month.name[month])
```

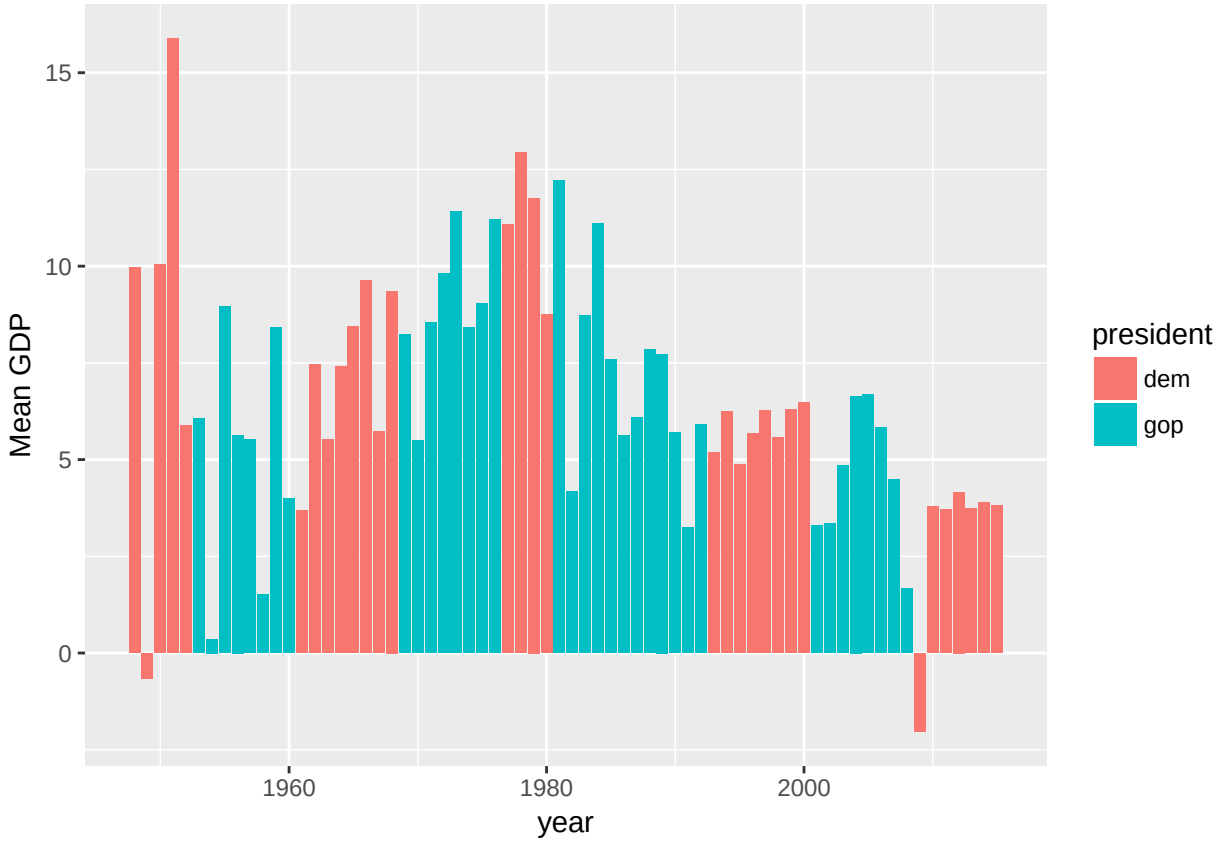
```
## Parsed with column specification:
## cols(
##   DATE = col_date(format = ""),
```

```
##   VALUE = col_character()
## )
```

```
is.na(GDP) <- GDP == "." # change "." to NA

# merge datasets

data_538 = left_join(pols_month, GDP)
```

```
## Joining, by = c("year", "month")
```

```
mean_gdp = data_538 %>%
  filter(!is.na(value)) %>%
  group_by(year) %>%
  mutate(value = as.numeric(value)) %>%
  summarise(mean_value = mean(value))

plot_gdp_over_time = data_538 %>%
  select(year, president) %>%
  unique() %>%
  left_join(mean_gdp, by = 'year') %>%
  filter(!is.na(mean_value))

plot_gdp_over_time %>%
  ggplot(aes(y = mean_value, x = year, fill = president)) +
  geom_col() +
  ylab('Mean GDP')
```



Above, we present a bar graph showing the mean yearly GDP from 1948 to 2015. At a glance, GDP appears to be overall increasing until the late 70s, when GDP appears to become overall decreasing. This pattern appears to hold regardless of the party holding presidential office.