install\_and\_load <- function(package) {

if (!requireNamespace(package, quietly = TRUE)) {

install.packages(package)

}

library(package, character.only = TRUE)

}

packages <- c("DBI", "RMySQL", "ggplot2", "here")

lapply(packages, install\_and\_load)

con <- dbConnect(MySQL(), user = 'root', password = '123456', dbname = 'barbeerdrinker', host = 'localhost', port = 3306)

dbSendQuery(con, "

create view v\_view\_Hanover as

select `Timestamp`, Trump, Biden, totalvotes

from Penna

where timestamp <= '2020-11-06 19:10:53' and precinct = 'Hanover'

and DATE\_FORMAT(`Timestamp`, '%Y-%m-%d') = DATE\_FORMAT('2020-11-06 19:10:53', '%Y-%m-%d')

order by `Timestamp`

")

result <- dbSendQuery(con, "select \* from v\_view\_Hanover")

data.frame <- fetch(result, n = 10)

print(data.frame)

setwd(here())

Penna <- read.csv(here("Penna.csv"), colClasses = c(timestamp = "POSIXct"))

# newPenna procedure

newPenna <- function(in\_newPenna, in\_date) {

data\_subset <- Penna %>%

filter(precinct == in\_newPenna, as.Date(timestamp) == as.Date(in\_date))

if (nrow(data\_subset) == 0) {

stop("Incorrect precinct")

}

new\_row <- data.frame(

precinct = in\_newPenna,

Timestamp = in\_date,

newvotes = data\_subset$totalvotes - data\_subset$old\_totalvotes,

new\_Trump = data\_subset$Trump - data\_subset$old\_Trump,

new\_Biden = data\_subset$Biden - data\_subset$old\_Biden

)

newPenna <<- rbind(newPenna, new\_row)

}

newPenna('Hanover', '2020-11-06 19:10:53')

print(newPenna())

switch\_result <- Penna %>%

filter(timestamp < max(timestamp) &

as.Date(timestamp) >= (max(timestamp) - 24 \* 60 \* 60) &

Biden < Trump) %>%

select(precinct, Timestamp = timestamp, fromCandidate = 'Trump', toCandidate = 'Biden')

print(switch\_result)

ggplot(Penna, aes(x = as.Date(timestamp), y = totalvotes)) +

geom\_line() +

labs(title = "Total Votes Over Time",

x = "Date",

y = "Total Votes")

head(Penna)