

Code Explanation

Zening Ye

10/7/2021

Inward-facing file

Explaining the detail for each code.

```
# Libray the package I need for tidy data and plot. Mostly using tidyverse and ggplt2
library(ggplot2)
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v tibble  3.1.5      v dplyr    1.0.7
## v tidyr   1.1.4      v stringr 1.4.0
## v readr   2.0.2      v forcats 0.5.1
## v purrr   0.3.4
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```

```
library(dplyr)
```

```
# Description 1: The proportion of people who did not use internet in the last 3 months from any locati
# calculate as the percentage of the total population.
# Description 2: Personal computers per 100 people in a year
# Data from 1989 to 2005
```

```
nnup1 <- tibble(read_csv("nnup.csv")) # Read the data from local work direction
```

```
## Rows: 196 Columns: 31
```

```
## -- Column specification -----
```

```
## Delimiter: ","
```

```
## chr (1): country
```

```
## dbl (30): 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, ...
```

```
##
```

```
## 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.
```

```

pc1 <- tibble(read_csv("PC.csv"))

## Rows: 196 Columns: 18

## -- Column specification -----
## Delimiter: ","
## chr (1): country
## dbl (17): 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, ...

##
## 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.

nnup1 <- nnup1[,1:18] # Matching the data, ensure they have same timeline

# Changing data from long data to wide data
nnup2 <- nnup1 %>%
  pivot_longer(col = -country, names_to = "Year", values_to = "NUI", values_drop_na = T)

pc2 <- pc1 %>%
  pivot_longer(col = -country, names_to = "Year", values_to = "PC", values_drop_na = T)

data <- full_join(nnup2, pc2, na.rm = T) # After changing data and drop NA value, join two data.

## Joining, by = c("country", "Year")

# Creating function with 3 variables: country1, country2 and value.
plt_data <- function(country1, country2, value) {
  # The following variables only for debugging
  # country1 <- 'China'
  # country2 <- 'Japan'
  # value <- 'PC'
  # value <- as.character(value)
  data1 <- filter(data, country == country1) # using filter to match the country1 data
  data2 <- filter(data, country == country2) # same with the above function
  data1$Year <- as.numeric(data1$Year) # changing Year from character to numerical
  data2$Year <- as.numeric(data2$Year)

  # Create datasets for logit statements
  # from c1.1 to c2.2 all function is to frame the data in specific detail
  c1.1 <- data.frame(country = data1$country, Year = data1$Year, NUI = data1$NUI)
  c2.1 <- data.frame(country = data2$country, Year = data2$Year, NUI = data2$NUI)
  c1.2 <- data.frame(country = data1$country, Year = data1$Year, PC = data1$PC)
  c2.2 <- data.frame(country = data2$country, Year = data2$Year, PC = data2$PC)

  # Combine two data into one
  t_data1 <- bind_rows(c1.1,c2.1)
  t_data2 <- bind_rows(c1.2,c2.2)

```

```

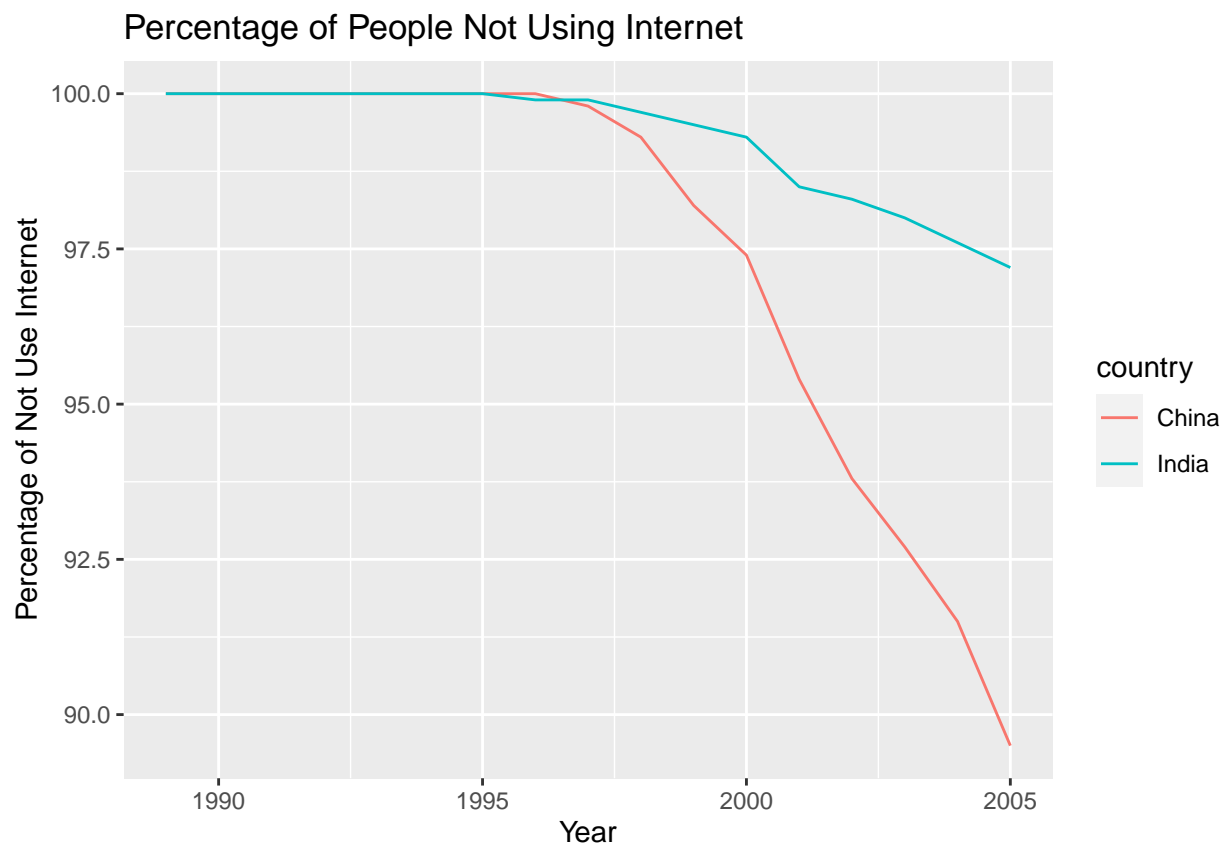
# 'if' sentence to determine the value whether NUI or PC
if (value == 'NUI'){
  # Plot use geom_line, x-axis is Year, Yaxis is NUI, seperate countris by using col
  ggplot(data = t_data1, aes(x = Year, y = NUI, col = country)) +
    geom_line(size = 0.5) +
    ggtitle('Percentage of People Not Using Internet') +
    labs(x = 'Year', y = 'Percentage of Not Use Internet')
} else if (value == 'PC') {
  ggplot(data = t_data2, aes(x = Year, y = PC, col = country)) +
    geom_line(size = 0.5) +
    ggtitle('Personal Computers Per 100 People in A Year')+
    labs(x = 'Year', y = 'PC per 100 people')
} else stop("Warning: Please ensure the value that enter was correct :D .") # Checking if the value is
}

```

```

# Debugging function
plt_data('India', 'China', 'NUI')

```



```

plt_data('India', 'China', 'PC')

```

Personal Computers Per 100 People in A Year

