analysis.Rmd

2025-07-23

```
library(DBI)
library(RSQLite)
library(readxl)

con <- dbConnect(RSQLite::SQLite(), "econ_data.db")


gdpgrowth_df <- read.csv("datafiles/gdpgrowth.csv", skip = 4)
dbWriteTable(con, "gdp growth", gdpgrowth_df, overwrite = TRUE)

gdpgrowthrate_df <- read.csv("datafiles/gdpgrowthrate.csv", skip = 4)
dbWriteTable(con, "gdp growth rate", gdpgrowthrate_df, overwrite = TRUE)

gdppercapita_df <- read.csv("datafiles/gdppercapita.csv", skip = 4)
dbWriteTable(con, "gdp per capita", gdppercapita_df, overwrite = TRUE)

homeprices_df <- read.csv("datafiles/homeprices.csv")
dbWriteTable(con, "home prices", homeprices_df, overwrite = TRUE)

inflationrate_df <- read.csv("datafiles/inflarate.csv")
dbWriteTable(con, "inflation rate", inflationrate_df, overwrite = TRUE)

inflation_df <- read.csv("datafiles/inflation.csv")
dbWriteTable(con, "inflation", inflation_df, overwrite = TRUE)

unemployedpopulation_df <- read_excel("datafiles/unemppop.xlsx", sheet = 1)
```

```
## New names:
## * `` -> `...2`
## * `` -> `...3`
## * `` -> `...4`
## * `` -> `...5`
## * `` -> `...6`
## * `` -> `...7`
## * `` -> `...8`
## * `` -> `...9`
## * `` -> `...10`
## * `` -> `...11`
## * `` -> `...12`
## * `` -> `...13`
```

```
dbWriteTable(con, "unemployed", unemployedpopulation_df, overwrite = TRUE)

unemploymentrate_df <- read_excel("datafiles/uneprate.xlsx", sheet = 1)
```

```
## New names:
## * `` -> `...2`
## * `` -> `...3`
## * `` -> `...4`
## * `` -> `...5`
## * `` -> `...6`
## * `` -> `...7`
## * `` -> `...8`
## * `` -> `...9`
## * `` -> `...10`
## * `` -> `...11`
## * `` -> `...12`
## * `` -> `...13`
```

```
dbWriteTable(con, "unemployment rate", unemploymentrate_df, overwrite = TRUE)

workingpopulation_df <- read_excel("datafiles/workpop.xlsx", sheet = 1)
```

```
## New names:
## * `` -> `...2`
## * `` -> `...3`
## * `` -> `...4`
## * `` -> `...5`
## * `` -> `...6`
## * `` -> `...7`
## * `` -> `...8`
## * `` -> `...9`
## * `` -> `...10`
## * `` -> `...11`
## * `` -> `...12`
## * `` -> `...13`
```

```
dbWriteTable(con, "working population", workingpopulation_df, overwrite = TRUE)

wealth_df <- read.csv("datafiles/wealthineq.csv")
dbWriteTable(con, "wealth", wealth_df, overwrite = TRUE)
```

```
dbListTables(con)
```

```
##  [1] "gdp growth"         "gdp growth rate"    "gdp per capita"
##  [4] "home prices"        "inflation"          "inflation rate"
##  [7] "unemployed"         "unemployment rate"  "wealth"
## [10] "working population"
```

```
dbListFields(con, "gdp growth")
```

```
##  [1] "Country.Name"   "Country.Code"   "Indicator.Name" "Indicator.Code"
##  [5] "X1960"          "X1961"          "X1962"          "X1963"
##  [9] "X1964"          "X1965"          "X1966"          "X1967"
## [13] "X1968"          "X1969"          "X1970"          "X1971"
## [17] "X1972"          "X1973"          "X1974"          "X1975"
```

```
## [21] "X1976"          "X1977"          "X1978"          "X1979"
## [25] "X1980"          "X1981"          "X1982"          "X1983"
## [29] "X1984"          "X1985"          "X1986"          "X1987"
## [33] "X1988"          "X1989"          "X1990"          "X1991"
## [37] "X1992"          "X1993"          "X1994"          "X1995"
## [41] "X1996"          "X1997"          "X1998"          "X1999"
## [45] "X2000"          "X2001"          "X2002"          "X2003"
## [49] "X2004"          "X2005"          "X2006"          "X2007"
## [53] "X2008"          "X2009"          "X2010"          "X2011"
## [57] "X2012"          "X2013"          "X2014"          "X2015"
## [61] "X2016"          "X2017"          "X2018"          "X2019"
## [65] "X2020"          "X2021"          "X2022"          "X2023"
## [69] "X2024"          "X"
```

```
dbListFields(con, "gdp per capita")
```

```
##  [1] "Country.Name"   "Country.Code"   "Indicator.Name" "Indicator.Code"
##  [5] "X1960"          "X1961"          "X1962"          "X1963"
##  [9] "X1964"          "X1965"          "X1966"          "X1967"
## [13] "X1968"          "X1969"          "X1970"          "X1971"
## [17] "X1972"          "X1973"          "X1974"          "X1975"
## [21] "X1976"          "X1977"          "X1978"          "X1979"
## [25] "X1980"          "X1981"          "X1982"          "X1983"
## [29] "X1984"          "X1985"          "X1986"          "X1987"
## [33] "X1988"          "X1989"          "X1990"          "X1991"
## [37] "X1992"          "X1993"          "X1994"          "X1995"
## [41] "X1996"          "X1997"          "X1998"          "X1999"
## [45] "X2000"          "X2001"          "X2002"          "X2003"
## [49] "X2004"          "X2005"          "X2006"          "X2007"
## [53] "X2008"          "X2009"          "X2010"          "X2011"
## [57] "X2012"          "X2013"          "X2014"          "X2015"
## [61] "X2016"          "X2017"          "X2018"          "X2019"
## [65] "X2020"          "X2021"          "X2022"          "X2023"
## [69] "X2024"          "X"
```

```
dbListFields(con, "gdp growth rate")
```

```
##  [1] "Country.Name"   "Country.Code"   "Indicator.Name" "Indicator.Code"
##  [5] "X1960"          "X1961"          "X1962"          "X1963"
##  [9] "X1964"          "X1965"          "X1966"          "X1967"
## [13] "X1968"          "X1969"          "X1970"          "X1971"
## [17] "X1972"          "X1973"          "X1974"          "X1975"
## [21] "X1976"          "X1977"          "X1978"          "X1979"
## [25] "X1980"          "X1981"          "X1982"          "X1983"
## [29] "X1984"          "X1985"          "X1986"          "X1987"
## [33] "X1988"          "X1989"          "X1990"          "X1991"
## [37] "X1992"          "X1993"          "X1994"          "X1995"
## [41] "X1996"          "X1997"          "X1998"          "X1999"
## [45] "X2000"          "X2001"          "X2002"          "X2003"
## [49] "X2004"          "X2005"          "X2006"          "X2007"
## [53] "X2008"          "X2009"          "X2010"          "X2011"
## [57] "X2012"          "X2013"          "X2014"          "X2015"
## [61] "X2016"          "X2017"          "X2018"          "X2019"
```

```
## [65] "X2020"          "X2021"          "X2022"          "X2023"
## [69] "X2024"          "X"
```

```
dbListFields(con, "home prices")
```

```
##   [1] "RegionID"    "SizeRank"    "RegionName"  "RegionType"  "StateName"
##   [6] "X1996.02.29" "X1996.03.31" "X1996.04.30" "X1996.05.31" "X1996.06.30"
##  [11] "X1996.07.31" "X1996.08.31" "X1996.09.30" "X1996.10.31" "X1996.11.30"
##  [16] "X1996.12.31" "X1997.01.31" "X1997.02.28" "X1997.03.31" "X1997.04.30"
##  [21] "X1997.05.31" "X1997.06.30" "X1997.07.31" "X1997.08.31" "X1997.09.30"
##  [26] "X1997.10.31" "X1997.11.30" "X1997.12.31" "X1998.01.31" "X1998.02.28"
##  [31] "X1998.03.31" "X1998.04.30" "X1998.05.31" "X1998.06.30" "X1998.07.31"
##  [36] "X1998.08.31" "X1998.09.30" "X1998.10.31" "X1998.11.30" "X1998.12.31"
##  [41] "X1999.01.31" "X1999.02.28" "X1999.03.31" "X1999.04.30" "X1999.05.31"
##  [46] "X1999.06.30" "X1999.07.31" "X1999.08.31" "X1999.09.30" "X1999.10.31"
##  [51] "X1999.11.30" "X1999.12.31" "X2000.01.31" "X2000.02.29" "X2000.03.31"
##  [56] "X2000.04.30" "X2000.05.31" "X2000.06.30" "X2000.07.31" "X2000.08.31"
##  [61] "X2000.09.30" "X2000.10.31" "X2000.11.30" "X2000.12.31" "X2001.01.31"
##  [66] "X2001.02.28" "X2001.03.31" "X2001.04.30" "X2001.05.31" "X2001.06.30"
##  [71] "X2001.07.31" "X2001.08.31" "X2001.09.30" "X2001.10.31" "X2001.11.30"
##  [76] "X2001.12.31" "X2002.01.31" "X2002.02.28" "X2002.03.31" "X2002.04.30"
##  [81] "X2002.05.31" "X2002.06.30" "X2002.07.31" "X2002.08.31" "X2002.09.30"
##  [86] "X2002.10.31" "X2002.11.30" "X2002.12.31" "X2003.01.31" "X2003.02.28"
##  [91] "X2003.03.31" "X2003.04.30" "X2003.05.31" "X2003.06.30" "X2003.07.31"
##  [96] "X2003.08.31" "X2003.09.30" "X2003.10.31" "X2003.11.30" "X2003.12.31"
## [101] "X2004.01.31" "X2004.02.29" "X2004.03.31" "X2004.04.30" "X2004.05.31"
## [106] "X2004.06.30" "X2004.07.31" "X2004.08.31" "X2004.09.30" "X2004.10.31"
## [111] "X2004.11.30" "X2004.12.31" "X2005.01.31" "X2005.02.28" "X2005.03.31"
## [116] "X2005.04.30" "X2005.05.31" "X2005.06.30" "X2005.07.31" "X2005.08.31"
## [121] "X2005.09.30" "X2005.10.31" "X2005.11.30" "X2005.12.31" "X2006.01.31"
## [126] "X2006.02.28" "X2006.03.31" "X2006.04.30" "X2006.05.31" "X2006.06.30"
## [131] "X2006.07.31" "X2006.08.31" "X2006.09.30" "X2006.10.31" "X2006.11.30"
## [136] "X2006.12.31" "X2007.01.31" "X2007.02.28" "X2007.03.31" "X2007.04.30"
## [141] "X2007.05.31" "X2007.06.30" "X2007.07.31" "X2007.08.31" "X2007.09.30"
## [146] "X2007.10.31" "X2007.11.30" "X2007.12.31" "X2008.01.31" "X2008.02.29"
## [151] "X2008.03.31" "X2008.04.30" "X2008.05.31" "X2008.06.30" "X2008.07.31"
## [156] "X2008.08.31" "X2008.09.30" "X2008.10.31" "X2008.11.30" "X2008.12.31"
## [161] "X2009.01.31" "X2009.02.28" "X2009.03.31" "X2009.04.30" "X2009.05.31"
## [166] "X2009.06.30" "X2009.07.31" "X2009.08.31" "X2009.09.30" "X2009.10.31"
## [171] "X2009.11.30" "X2009.12.31" "X2010.01.31" "X2010.02.28" "X2010.03.31"
## [176] "X2010.04.30" "X2010.05.31" "X2010.06.30" "X2010.07.31" "X2010.08.31"
## [181] "X2010.09.30" "X2010.10.31" "X2010.11.30" "X2010.12.31" "X2011.01.31"
## [186] "X2011.02.28" "X2011.03.31" "X2011.04.30" "X2011.05.31" "X2011.06.30"
## [191] "X2011.07.31" "X2011.08.31" "X2011.09.30" "X2011.10.31" "X2011.11.30"
## [196] "X2011.12.31" "X2012.01.31" "X2012.02.29" "X2012.03.31" "X2012.04.30"
## [201] "X2012.05.31" "X2012.06.30" "X2012.07.31" "X2012.08.31" "X2012.09.30"
## [206] "X2012.10.31" "X2012.11.30" "X2012.12.31" "X2013.01.31" "X2013.02.28"
## [211] "X2013.03.31" "X2013.04.30" "X2013.05.31" "X2013.06.30" "X2013.07.31"
## [216] "X2013.08.31" "X2013.09.30" "X2013.10.31" "X2013.11.30" "X2013.12.31"
## [221] "X2014.01.31" "X2014.02.28" "X2014.03.31" "X2014.04.30" "X2014.05.31"
## [226] "X2014.06.30" "X2014.07.31" "X2014.08.31" "X2014.09.30" "X2014.10.31"
## [231] "X2014.11.30" "X2014.12.31" "X2015.01.31" "X2015.02.28" "X2015.03.31"
## [236] "X2015.04.30" "X2015.05.31" "X2015.06.30" "X2015.07.31" "X2015.08.31"
## [241] "X2015.09.30" "X2015.10.31" "X2015.11.30" "X2015.12.31" "X2016.01.31"
```

```
## [246] "X2016.02.29" "X2016.03.31" "X2016.04.30" "X2016.05.31" "X2016.06.30"
## [251] "X2016.07.31" "X2016.08.31" "X2016.09.30" "X2016.10.31" "X2016.11.30"
## [256] "X2016.12.31" "X2017.01.31" "X2017.02.28" "X2017.03.31" "X2017.04.30"
## [261] "X2017.05.31" "X2017.06.30" "X2017.07.31" "X2017.08.31" "X2017.09.30"
## [266] "X2017.10.31" "X2017.11.30" "X2017.12.31" "X2018.01.31" "X2018.02.28"
## [271] "X2018.03.31" "X2018.04.30" "X2018.05.31" "X2018.06.30" "X2018.07.31"
## [276] "X2018.08.31" "X2018.09.30" "X2018.10.31" "X2018.11.30" "X2018.12.31"
## [281] "X2019.01.31" "X2019.02.28" "X2019.03.31" "X2019.04.30" "X2019.05.31"
## [286] "X2019.06.30" "X2019.07.31" "X2019.08.31" "X2019.09.30" "X2019.10.31"
## [291] "X2019.11.30" "X2019.12.31" "X2020.01.31" "X2020.02.29" "X2020.03.31"
## [296] "X2020.04.30" "X2020.05.31" "X2020.06.30" "X2020.07.31" "X2020.08.31"
## [301] "X2020.09.30" "X2020.10.31" "X2020.11.30" "X2020.12.31" "X2021.01.31"
## [306] "X2021.02.28" "X2021.03.31" "X2021.04.30" "X2021.05.31" "X2021.06.30"
## [311] "X2021.07.31" "X2021.08.31" "X2021.09.30" "X2021.10.31" "X2021.11.30"
## [316] "X2021.12.31" "X2022.01.31" "X2022.02.28" "X2022.03.31" "X2022.04.30"
## [321] "X2022.05.31" "X2022.06.30" "X2022.07.31" "X2022.08.31" "X2022.09.30"
## [326] "X2022.10.31" "X2022.11.30" "X2022.12.31" "X2023.01.31" "X2023.02.28"
## [331] "X2023.03.31" "X2023.04.30" "X2023.05.31" "X2023.06.30" "X2023.07.31"
## [336] "X2023.08.31" "X2023.09.30" "X2023.10.31" "X2023.11.30" "X2023.12.31"
## [341] "X2024.01.31" "X2024.02.29" "X2024.03.31" "X2024.04.30" "X2024.05.31"
## [346] "X2024.06.30" "X2024.07.31" "X2024.08.31" "X2024.09.30" "X2024.10.31"
## [351] "X2024.11.30" "X2024.12.31" "X2025.01.31" "X2025.02.28" "X2025.03.31"
## [356] "X2025.04.30" "X2025.05.31" "X2025.06.30"
```

```
dbListFields(con, "inflation")
```

```
## [1] "observation_date" "CPILFESL"
```

```
dbListFields(con, "inflation rate")
```

```
## [1] "observation_date" "FPCPITOTLZGUSA"
```

```
dbListFields(con, "unemployed")
```

```
##  [1] "Labor Force Statistics from the Current Population Survey"
##  [2] "...2"
##  [3] "...3"
##  [4] "...4"
##  [5] "...5"
##  [6] "...6"
##  [7] "...7"
##  [8] "...8"
##  [9] "...9"
## [10] "...10"
## [11] "...11"
## [12] "...12"
## [13] "...13"
```

```
dbListFields(con, "unemployment rate")
```

```
##  [1] "Labor Force Statistics from the Current Population Survey"
```

```
##  [2] "...2"
##  [3] "...3"
##  [4] "...4"
##  [5] "...5"
##  [6] "...6"
##  [7] "...7"
##  [8] "...8"
##  [9] "...9"
## [10] "...10"
## [11] "...11"
## [12] "...12"
## [13] "...13"
```

```
dbListFields(con, "working population")
```

```
##  [1] "Labor Force Statistics from the Current Population Survey"
##  [2] "...2"
##  [3] "...3"
##  [4] "...4"
##  [5] "...5"
##  [6] "...6"
##  [7] "...7"
##  [8] "...8"
##  [9] "...9"
## [10] "...10"
## [11] "...11"
## [12] "...12"
## [13] "...13"
```

```
dbListFields(con, "wealth")
```

```
## [1] "Percentile" "Year"       "Share"
```

```
dbGetQuery(con, "SELECT * from \"gdp growth\" LIMIT 10")
```

```
##                    Country.Name Country.Code    Indicator.Name Indicator.Code
## 1                         Aruba          ABW GDP (current US$) NY.GDP.MKTP.CD
## 2  Africa Eastern and Southern          AFE GDP (current US$) NY.GDP.MKTP.CD
## 3                   Afghanistan          AFG GDP (current US$) NY.GDP.MKTP.CD
## 4   Africa Western and Central          AFW GDP (current US$) NY.GDP.MKTP.CD
## 5                        Angola          AGO GDP (current US$) NY.GDP.MKTP.CD
## 6                       Albania          ALB GDP (current US$) NY.GDP.MKTP.CD
## 7                       Andorra          AND GDP (current US$) NY.GDP.MKTP.CD
## 8                    Arab World          ARB GDP (current US$) NY.GDP.MKTP.CD
## 9          United Arab Emirates          ARE GDP (current US$) NY.GDP.MKTP.CD
## 10                    Argentina          ARG GDP (current US$) NY.GDP.MKTP.CD
##          X1960       X1961       X1962       X1963       X1964       X1965
## 1           NA          NA          NA          NA          NA          NA
## 2  24209933141 24963256383 27078015031 31774831212 30284919141 33812194393
## 3           NA          NA          NA          NA          NA          NA
## 4  11905107707 12708033250 13630920944 14469258365 15803936677 16921238012
## 5           NA          NA          NA          NA          NA          NA
```

```
## 6           NA          NA          NA          NA          NA          NA
## 7           NA          NA          NA          NA          NA          NA
## 8           NA 19997084375 20327670812 22362957746 24811627226 26769289696
## 9           NA          NA          NA          NA          NA          NA
## 10 15865474315 20132220375 18337691145 18272123664 25605249382 28344705967
##          X1966       X1967       X1968       X1969       X1970       X1971
## 1           NA          NA          NA          NA          NA          NA
## 2  36933907897 38451060071 41749510603 47056941587 47602358397 52197888096
## 3           NA          NA          NA          NA          NA          NA
## 4  18034328958 16493846012 17022944325 19301601791 26697431082 24497038201
## 5           NA          NA          NA          NA          NA          NA
## 6           NA          NA          NA          NA          NA          NA
## 7           NA          NA          NA          NA    78617711    89406608
## 8  28349126512 30598797626 34970677299 38561008452 43091222311 49926770850
## 9           NA          NA          NA          NA   685986701   939893600
## 10 28630474728 24256667553 26436857247 31256284544 31584210366 33293199095
##          X1972       X1973        X1974        X1975        X1976        X1977
## 1           NA          NA           NA           NA           NA           NA
## 2  56735886019 73096340027  89551627351  95312337397  96023171890 109227611657
## 3           NA          NA           NA           NA           NA           NA
## 4  29489666871 36891334761  49688193509  57280847676  68386320279  71790695366
## 5           NA          NA           NA           NA           NA           NA
## 6           NA          NA           NA           NA           NA           NA
## 7   113414397   150841639    186557082    220112572    227283851    253997897
## 8  59966658269 79125367985 152188729578 168158579115 209993347723 242270387244
## 9   1415086929  4231243616  11651505689  14720728249  19213158779  24871775165
## 10 34733000536 52544000117  72436777342  52438647922  51169499892  56781000101
##           X1978        X1979        X1980        X1981        X1982
## 1            NA           NA           NA           NA           NA
## 2  124105768857 142125443088 178504202322 185157804113 178399944241
## 3            NA           NA           NA           NA           NA
## 4   78779099935  96682239333 120501079996 216911025160 195917937082
## 5            NA           NA   5930503401   5550483036   5550483036
## 6            NA           NA   1578102105   1808177156   1861163170
## 7    308020261    411548748    446377777    388983266    375914744
## 8  265398240303 358111304353 486405826810 494916415270 463080469433
## 9   23775764225  31225659621  43599160050  49333424135  46622718605
## 10  89049453088  69252328952  76961923741  78676842367  84307486837
##           X1983        X1984        X1985        X1986        X1987
## 1            NA           NA           NA    405586592    487709497
## 2  185817205251 170095168126 149393853686 160633055116 190269043509
## 3            NA           NA           NA           NA           NA
## 4  151222762743 131218159346 137802915726 109237001606 112294774136
## 5    5784341596   6131475065   7554065410   7072536109   8084412414
## 6    1881412587   1857337995   1897050117   2097326250   2080796250
## 7     327850043    330073081    346742715    481996013    611299925
## 8  437471179626 440182151059 432868201224 405473196687 431257668998
## 9   42803323345  41807954236  40603650232  33943612095  36384908744
## 10 103979106778 116915052107  88150891728 105872372614 108810885301
##           X1988        X1989        X1990        X1991        X1992
## 1     596648045    695530726    764804469    872067039    958659218
## 2  207464333653 220706095624 256504902942 277043404955 241297872903
## 3            NA           NA           NA           NA           NA
## 4  111227154872 103934371473 123711320145 129941884296 124599331019
```

```
## 5    8769836769  10201780977  11229515599  10603784541   8307810974
## 6    2051236250   2253090000   2028553750   1099559028    652174991
## 7     721425939    795489582   1028989692   1106891362   1209992020
## 8  429382834204 457369060543 641712235246 467952893083 467794315257
## 9   36275674203  41464995914  50701443748  51552165622  54239171888
## 10 126890235049  76629728760 141352654305 189719984268 228778917308
##           X1993        X1994        X1995        X1996        X1997
## 1    1083240223   1245810056   1320670391   1379888268   1531843575
## 2  240094759187 243571144844 273433173838 273530987733 288377676458
## 3            NA           NA           NA           NA           NA
## 4  129732603622 134776833882 207176966731 262600874774 275742250000
## 5    5768720422   4438321017   5538749260   7526421519   7648380196
## 6    1185315468   1880950864   2905092799   3234486232   2293666030
## 7    1007090270   1017544069   1178745283   1224024139   1180645572
## 8  478927015196 499880123725 528480485483 570909722766 614596967130
## 9   55625170253  59305093980  65743666576  73571233996  78839008445
## 10 236741715015 257440000000 258031750000 272149750000 292859000000
##           X1998        X1999        X2000        X2001        X2002
## 1    1665363128   1722905028   1873452514   1896456983   1961843575
## 2  268833469565 265429291662 287201651521 260992228316 267815037640
## 3            NA           NA   3521418060   2813571754   3825701439
## 4  296152427997 139468349994 142140075688 150058483261 179390065281
## 5    6506221616   6152923310   9129594970   8936079118  15285592370
## 6    2600356999   3283941510   3584570165   4059064033   4515003117
## 7    1211953994   1240295103   1432606189   1548265808   1764279824
## 8  598789587274 665415371174 763411636190 744728537854 746649261275
## 9   75674336283  84445473111 104337372362 103311640572 109816201498
## 10 298948250000 283523000000 284203750000 268696750000  97724004252
##           X2003        X2004        X2005        X2006        X2007
## 1    2044111732   2254830726 2.360017e+09 2.469783e+09 2.677641e+09
## 2  355716369818 442696186423 5.166611e+11 5.802408e+11 6.655987e+11
## 3    4520946819   5224896719 6.203257e+09 6.971758e+09 9.747886e+09
## 4  207754986323 258566656911 3.170965e+11 4.027242e+11 4.715378e+11
## 5   17812704586  23552057679 3.697090e+10 5.238103e+10 6.526642e+10
## 6    5801712040   7406645793 8.256658e+09 9.150528e+09 1.111694e+10
## 7    2366941809   2900245324 3.161084e+09 3.459338e+09 3.957625e+09
## 8  830076468637 987316008402 1.210080e+12 1.439471e+12 1.674641e+12
## 9  124346358067 147824370320 1.806175e+11 2.221165e+11 2.579161e+11
## 10 127586973492 164657930453 1.987371e+11 2.325573e+11 2.875305e+11
##           X2008        X2009        X2010        X2011        X2012
## 1  2.843025e+09 2.553793e+09 2.453597e+09 2.637859e+09 2.615208e+09
## 2  7.135021e+11 7.154853e+11 8.494096e+11 9.454390e+11 9.529985e+11
## 3  1.010930e+10 1.241615e+10 1.585667e+10 1.780510e+10 1.990733e+10
## 4  5.750595e+11 5.154740e+11 6.062801e+11 6.911875e+11 7.481268e+11
## 5  8.853867e+10 7.030720e+10 8.379947e+10 1.117897e+11 1.280529e+11
## 6  1.325851e+10 1.233554e+10 1.208655e+10 1.297376e+10 1.224650e+10
## 7  4.102319e+09 3.688976e+09 3.449926e+09 3.629134e+09 3.188653e+09
## 8  2.118071e+12 1.829850e+12 2.155345e+12 2.565019e+12 2.805384e+12
## 9  3.154746e+11 2.535474e+11 3.001891e+11 3.608327e+11 3.846101e+11
## 10 3.615580e+11 3.329765e+11 4.236274e+11 5.301581e+11 5.459824e+11
##           X2013        X2014        X2015        X2016        X2017
## 1  2.727850e+09 2.790850e+09 2.962907e+09 2.983635e+09 3.092429e+09
## 2  9.624413e+11 9.787438e+11 8.983089e+11 8.289612e+11 9.730251e+11
## 3  2.014642e+10 2.049713e+10 1.913422e+10 1.811657e+10 1.875346e+10
```

```
## 4  8.442026e+11 9.039337e+11 7.780221e+11 7.000282e+11 6.940513e+11
## 5  1.323391e+11 1.359668e+11 9.049642e+10 5.276162e+10 7.369015e+10
## 6  1.279699e+10 1.329632e+10 1.147017e+10 1.198867e+10 1.325827e+10
## 7  3.193513e+09 3.271686e+09 2.789881e+09 2.896610e+09 3.000162e+09
## 8  2.874276e+12 2.926205e+12 2.568631e+12 2.524103e+12 2.598475e+12
## 9  4.002185e+11 4.141054e+11 3.702755e+11 3.692553e+11 3.905168e+11
## 10 5.520251e+11 5.263197e+11 5.947493e+11 5.575323e+11 6.436284e+11
##           X2018        X2019        X2020        X2021        X2022
## 1  3.276184e+09 3.395799e+09 2.481857e+09 2.929447e+09 3.279344e+09
## 2  1.012291e+12 1.009747e+12 9.334072e+11 1.085605e+12 1.191639e+12
## 3  1.805322e+10 1.879944e+10 1.995593e+10 1.426000e+10 1.449724e+10
## 4  7.778404e+11 8.332889e+11 7.972952e+11 8.581145e+11 8.936399e+11
## 5  7.945069e+10 7.089796e+10 4.850156e+10 6.650513e+10 1.043997e+11
## 6  1.537951e+10 1.558511e+10 1.524146e+10 1.803201e+10 1.901724e+10
## 7  3.218420e+09 3.155149e+09 2.891001e+09 3.324648e+09 3.380613e+09
## 8  2.907330e+12 2.949355e+12 2.596423e+12 3.077907e+12 3.738584e+12
## 9  4.270494e+11 4.179897e+11 3.494730e+11 4.151788e+11 5.027319e+11
## 10 5.248199e+11 4.477547e+11 3.857405e+11 4.865641e+11 6.327901e+11
##           X2023        X2024  X
## 1  3.648573e+09           NA NA
## 2  1.176910e+12 1.287677e+12 NA
## 3  1.715223e+10           NA NA
## 4  8.147285e+11 6.700257e+11 NA
## 5  8.487516e+10 8.039694e+10 NA
## 6  2.354718e+10 2.717774e+10 NA
## 7  3.785067e+09 4.039844e+09 NA
## 8  3.606002e+12 3.704768e+12 NA
## 9  5.141304e+11 5.370788e+11 NA
## 10 6.460753e+11 6.332667e+11 NA
```

```
dbGetQuery(con, "SELECT * from \"gdp per capita\" LIMIT 10")
```

```
##                   Country.Name Country.Code              Indicator.Name
## 1                        Aruba          ABW GDP per capita (current US$)
## 2  Africa Eastern and Southern          AFE GDP per capita (current US$)
## 3                  Afghanistan          AFG GDP per capita (current US$)
## 4   Africa Western and Central          AFW GDP per capita (current US$)
## 5                       Angola          AGO GDP per capita (current US$)
## 6                      Albania          ALB GDP per capita (current US$)
## 7                      Andorra          AND GDP per capita (current US$)
## 8                   Arab World          ARB GDP per capita (current US$)
## 9         United Arab Emirates          ARE GDP per capita (current US$)
## 10                   Argentina          ARG GDP per capita (current US$)
##    Indicator.Code    X1960    X1961    X1962    X1963    X1964    X1965
## 1  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 2  NY.GDP.PCAP.CD 186.1218 186.9418 197.4024 225.4405 208.9997 226.8765
## 3  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 4  NY.GDP.PCAP.CD 121.9399 127.4542 133.8270 139.0083 148.5494 155.5652
## 5  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 6  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 7  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 8  NY.GDP.PCAP.CD       NA 212.8897 210.8054 225.8006 243.8974 256.1801
## 9  NY.GDP.PCAP.CD       NA       NA       NA       NA       NA       NA
## 10 NY.GDP.PCAP.CD 778.2517 971.3380 870.2175 852.9724 1176.2009 1281.8334
```

```
##        X1966     X1967     X1968     X1969     X1970     X1971     X1972
## 1         NA        NA        NA        NA        NA        NA        NA
## 2   240.9552  243.8173  257.1901  281.6293  276.7821  294.8661  311.5190
## 3         NA        NA        NA        NA        NA        NA        NA
## 4   162.1108  144.9435  146.1892  161.9214  218.6763  195.8620  230.0708
## 5         NA        NA        NA        NA        NA        NA        NA
## 6         NA        NA        NA        NA        NA        NA        NA
## 7         NA        NA        NA        NA 3935.4113 4169.6954 4940.2970
## 8   263.9508  276.9330  307.5368  329.4314  357.6947  402.7950  470.1956
## 9         NA        NA        NA        NA 2394.0681 2805.4264 3675.4168
## 10 1275.0784 1063.9328 1141.9521 1329.5618 1322.7145 1372.5075 1409.3710
##        X1973      X1974      X1975      X1976      X1977      X1978      X1979
## 1         NA         NA         NA         NA         NA         NA         NA
## 2   389.7970   463.5498   479.1622   468.8563   518.4506   571.7203   634.5619
## 3         NA         NA         NA         NA         NA         NA         NA
## 4   280.6493   368.3019   413.3714   480.4527   490.8478   523.7881   624.8783
## 5         NA         NA         NA         NA         NA         NA         NA
## 6         NA         NA         NA         NA         NA         NA         NA
## 7  6151.0272  7139.5745  7925.4158  7721.2886  8167.9229  9409.5085 11996.4073
## 8   602.4667  1124.9668  1205.4738  1458.1440  1630.3598  1728.2057  2251.5060
## 9  9695.8142 23822.9716 27117.1881 31196.9792 35020.3604 29379.1277 34238.2864
## 10 2097.8995  2844.9699  2026.6844  1946.9199  2126.4855  3282.0630  2511.9733
##         X1980      X1981      X1982      X1983      X1984      X1985      X1986
## 1          NA         NA         NA         NA         NA         NA  6767.5592
## 2    773.4395   777.8331   725.7281   732.5887   650.5635   554.4391   578.6040
## 3          NA         NA         NA         NA         NA         NA         NA
## 4    757.0756  1324.5466  1162.1307   872.8327   737.6749   753.7998   581.3907
## 5    729.1120   657.9826   634.2215   636.8328   650.4911   772.4688   697.5266
## 6    590.6077   663.2942   668.4545   661.5468   639.4847   639.8659   693.8735
## 7  12474.9253 10465.2605  9697.5220  8082.0915  7808.1300  7911.9844 10539.1178
## 8   2954.0492  2911.0079  2640.5858  2417.3246  2357.2689  2247.9275  2042.5856
## 9  42925.2339 44854.4800 39972.4947 34650.0041 32012.3142 29467.5420 23132.0740
## 10  2747.5023  2764.0864  2914.7671  3537.7473  3915.0349  2905.7757  3436.0782
##        X1987      X1988      X1989      X1990      X1991      X1992      X1993
## 1   8244.0457 10056.2614 11507.2172 12187.5364 13233.9905 13892.6051 14700.9598
## 2    665.1198   704.4662   728.5493   822.7939   864.5639   733.2439   709.6593
## 3          NA         NA         NA         NA         NA         NA         NA
## 4    581.5238   560.3806   509.3267   590.3214   603.8789   563.3101   570.8886
## 5    770.1011   807.4396   907.7479   965.8668   881.9195   668.7060   449.7279
## 6    674.7934   652.7743   697.9956   617.2304   336.5870   200.8522   367.2792
## 7  12828.1519 14599.0355 15714.9266 19563.6575 19533.2621 20099.5352 15916.8395
## 8   2108.5859  2042.0576  2117.7526  2875.2571  2048.8098  1996.3776  1987.8577
## 9  23112.6234 21569.7069 23166.7306 26709.9934 25690.9686 25648.2728 25032.7823
## 10  3477.3013  3992.7033  2374.5732  4315.3340  5709.2478  6789.9961  6931.8560
##        X1994      X1995      X1996      X1997      X1998      X1999      X2000
## 1  16055.2878 16548.7174 16620.9546 17750.0096 18828.0871 19216.1972 20681.0230
## 2    701.0416   766.8206   747.0697   767.6842   697.3527   670.6978   707.1204
## 3          NA         NA         NA         NA         NA         NA   174.9310
## 4    577.5487   863.9506  1065.6835  1088.9968  1137.7445   521.3647   516.9323
## 5    334.9736   404.2948   531.1154   521.7029   429.1881   392.7255   563.7338
## 6    586.4161   911.3205  1020.9762   728.5455   831.1753  1056.3448  1160.4205
## 7  15748.5308 18443.2545 19130.1597 18247.9996 18536.5084 18875.2869 21810.2487
## 8   2018.6858  2081.0207  2193.8733  2305.6161  2192.6119  2378.9505  2664.1658
## 9  25472.6397 27003.2007 28323.1651 27982.7957 24889.4269 25855.8605 29865.5023
```

```
## 10  7437.5624  7357.6163  7663.2127  8146.7871  8218.9921  7705.5429  7637.0149
##         X2001      X2002      X2003      X2004      X2005      X2006      X2007
## 1  20740.1326 21307.2483 21949.4860 23700.6320 24171.8371 24845.6585 26736.3089
## 2    626.1691   625.9988   809.9681   981.7446  1115.7140  1220.0025  1362.3107
## 3    138.7068   178.9541   198.8711   221.7637   254.1842   274.2186   376.2232
## 4    530.6532   616.7960   694.5009   840.2521  1001.6046  1236.6281  1407.6421
## 5    533.5862   882.1478   992.6990  1266.2109  1916.4684  2617.0520  3141.0460
## 6   1326.4165  1479.8388  1908.6990  2446.9095  2741.7214  3057.7726  3743.0553
## 7  23511.2951 26528.1302 34063.5784 39021.1278 40829.8019 43467.2110 48336.2283
## 8   2536.7120  2483.1072  2696.6723  3133.7369  3750.6935  4355.0876  4940.7023
## 9  27745.1708 27753.6090 29659.5429 33376.7152 38719.3138 44342.6048 45854.7325
## 10  7141.4751  2569.6996  3320.4778  4242.0210  5067.6534  5869.3803  7185.2516
##         X2008      X2009      X2010      X2011      X2012      X2013      X2014
## 1  28171.9094 25134.7712 24093.1402 25712.3843 25119.6655 25813.5767 26129.8391
## 2   1421.1186  1386.5902  1601.7277  1735.5849  1702.9691  1673.2211  1656.1677
## 3    381.7332   452.0537   560.6215   606.6947   651.4171   637.0871   625.0549
## 4   1668.8411  1454.7283  1663.9669  1844.1986  1941.3696  2131.6621  2221.0107
## 5   4103.0669  3136.6455  3597.3429  4615.9106  5086.0274  5057.7479  5005.9997
## 6   4498.5049  4213.6501  4149.1447  4465.7091  4222.3471  4420.2346  4602.2305
## 7  49132.5157 43975.0184 42746.8310 46657.1561 41500.5436 42470.3161 44369.6597
## 8   6091.9321  5134.4501  5928.3054  6894.1954  7362.6299  7351.9481  7311.2900
## 9  50054.1701 37803.0664 43696.6713 50789.0505 52034.4762 52023.5171 51381.4070
## 10  8944.1103  8150.2353 10260.1313 12704.2832 12949.7175 12963.6758 12233.1444
##         X2015      X2016      X2017      X2018      X2019      X2020      X2021
## 1  27458.2253 27441.5297 28440.0520 30082.1276 31096.2051 22855.9323 27200.0611
## 2   1479.6153  1329.8073  1520.2122  1538.9017  1493.8179  1344.1032  1522.3933
## 3    565.5697   522.0822   525.4698   491.3372   496.6025   510.7871   356.4962
## 4   1860.7277  1630.0394  1574.2306  1720.1403  1798.3407  1680.0393  1765.9548
## 5   3213.9026  1807.9529  2437.2597  2538.5914  2189.8557  1449.9229  1925.8747
## 6   3981.7266  4168.3754  4614.0480  5365.4888  5460.4305  5370.7775  6413.2828
## 7  38654.9347 40129.8192 40672.9943 42819.7746 41257.8046 37361.0901 42425.6997
## 8   6262.0417  6012.5124  6066.7268  6668.2167  6638.4854  5722.4810  6681.7090
## 9  43534.9973 41326.4018 42340.5917 45689.8570 44251.4541 37173.8754 43360.0211
## 10 13679.6265 12699.9623 14532.5009 11752.7999  9955.9748  8535.5994 10738.0179
##         X2022      X2023     X2024  X
## 1  30559.5335 33984.7906        NA NA
## 2   1628.3189  1568.1599  1673.841 NA
## 3    357.2612   413.7579        NA NA
## 4   1796.6686  1599.3930  1284.154 NA
## 5   2929.6945  2309.5341  2122.084 NA
## 6   6846.4267  8575.1713 10011.628 NA
## 7  42414.0590 46812.4484 49303.673 NA
## 8   7931.6179  7479.6881  7521.153 NA
## 9  49899.0653 49040.6948 49377.564 NA
## 10 13935.6811 14187.4827 13858.204 NA
```

```
dbGetQuery(con, "SELECT * from \"gdp growth rate\" LIMIT 10")
```

```
##                   Country.Name Country.Code        Indicator.Name
## 1                        Aruba          ABW GDP growth (annual %)
## 2  Africa Eastern and Southern          AFE GDP growth (annual %)
## 3                  Afghanistan          AFG GDP growth (annual %)
## 4   Africa Western and Central          AFW GDP growth (annual %)
## 5                       Angola          AGO GDP growth (annual %)
```

```
## 6                     Albania          ALB GDP growth (annual %)
## 7                     Andorra          AND GDP growth (annual %)
## 8                  Arab World          ARB GDP growth (annual %)
## 9         United Arab Emirates          ARE GDP growth (annual %)
## 10                   Argentina          ARG GDP growth (annual %)
##       Indicator.Code X1960     X1961      X1962     X1963     X1964     X1965
## 1  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 2  NY.GDP.MKTP.KD.ZG    NA 0.4697078  7.8686226  5.622472  4.689533  5.159536
## 3  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 4  NY.GDP.MKTP.KD.ZG    NA 1.8696369  3.7259406  7.039191  5.364761  4.105616
## 5  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 6  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 7  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 8  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 9  NY.GDP.MKTP.KD.ZG    NA        NA         NA        NA        NA        NA
## 10 NY.GDP.MKTP.KD.ZG    NA 5.4278429 -0.8520215 -5.308197 10.130298 10.569433
##         X1966     X1967     X1968     X1969     X1970     X1971     X1972
## 1          NA        NA        NA        NA        NA        NA        NA
## 2   4.8222577  5.373938  4.153383  5.091807  1.135154  5.479342  2.771158
## 3          NA        NA        NA        NA        NA        NA        NA
## 4  -1.5129886 -8.967443  1.558993 15.127190 17.382531 10.453272  3.153188
## 5          NA        NA        NA        NA        NA        NA        NA
## 6          NA        NA        NA        NA        NA        NA        NA
## 7          NA        NA        NA        NA        NA  4.649465  8.149744
## 8          NA  6.786398 10.780654  7.454780 22.941411  7.489614 13.951693
## 9          NA        NA        NA        NA        NA 36.612378 39.079638
## 10 -0.6597262  3.191997  4.822501  9.679526  3.045643  5.658131  1.628417
##        X1973     X1974       X1975     X1976     X1977     X1978       X1979
## 1         NA        NA          NA        NA        NA        NA          NA
## 2   4.606450  5.475813  1.40432911  2.382201  1.120648  1.508609  2.93052335
## 3         NA        NA          NA        NA        NA        NA          NA
## 4   3.952264  9.975607 -2.07779487  8.394825  4.551447 -1.917931  5.00166993
## 5         NA        NA          NA        NA        NA        NA          NA
## 6         NA        NA          NA        NA        NA        NA          NA
## 7   7.788467  5.618790  0.54220567  3.303787  2.838576  1.463000  0.04155722
## 8  13.321729 10.521416 -0.04129328 14.319519  6.614441  2.935369 10.65265290
## 9  76.620155 14.498041  6.22740139 16.526857 21.439330 -1.589603 20.92357308
## 10  2.811754  5.533804 -0.02841210 -2.018252  6.934148 -4.506125 10.22276346
##        X1980      X1981      X1982       X1983      X1984      X1985
## 1         NA         NA         NA          NA         NA         NA
## 2   5.464293  4.0140912  0.3151527  0.03932852  3.3652804 -0.1280365
## 3         NA         NA         NA          NA         NA         NA
## 4   1.905791 -6.7013536 -3.2229169 -6.25245904  0.5418582  5.3946427
## 5         NA -4.4000012  0.0000000  4.20000143  6.0000022  3.4999995
## 6         NA  5.7456353  2.9485968  1.10493826 -1.2515966  1.7806440
## 7   2.208728 -0.1324745  1.2464611  1.77011827  1.7846867  2.3214330
## 8   6.297068  0.8521898 -5.9887625 -3.76475337  1.2407288 -0.8462194
## 9  23.874775  4.6591767 -6.7193162 -4.74582070  4.0169513 -3.5944765
## 10  1.518784 -5.1897891 -0.7356592  4.34909328  1.5707387 -5.1890244
##          X1986      X1987     X1988       X1989      X1990        X1991
## 1           NA 16.0784314 18.648649 12.12984055  3.9614017   7.96287173
## 2    2.2660046  3.9545238  4.274110  2.69634244  0.1758673  -0.09546367
## 3           NA         NA        NA          NA         NA           NA
## 4    1.3375520  1.4297519  4.679828  1.72672657  5.6968803   1.06723219
```

```
## 5    2.9000017  4.0827486  6.128890  0.04162146 -3.4500987   0.99135930
## 6    5.6372432 -0.7878427 -1.420040  9.83654897 -9.5756402 -28.00214165
## 7    3.2533218  5.5471222  5.094326  4.82703427  3.7813875   2.54600353
## 8   -0.8005754  0.2537429  3.272483  3.81828033  7.8555197  -0.69300378
## 9  -14.9581366  3.3819817 -2.618908 12.33789128 18.3279855   0.86008195
## 10   6.1533771  2.7048688 -1.089933 -7.15694966 -2.4672138   9.13311057
##        X1992       X1993      X1994     X1995     X1996      X1997     X1998
## 1   5.882354   7.3076932  8.2039013  2.547144  1.185789   7.046875 1.9919844
## 2  -2.350160  -0.5994377  1.9320314  4.282648  5.454335   3.841977 1.7526294
## 3         NA          NA         NA        NA        NA         NA        NA
## 4   2.350220  -1.3626449 -0.2831964  1.859801  4.629126   4.403075 3.6234203
## 5  -5.838281 -23.9834174  1.3393634 15.000000 13.544370   7.274277 4.6911465
## 6  -7.187111   9.5594117  8.3028666 13.322333  7.336329 -11.711573 8.3100252
## 7   0.929214  -1.0314844  2.3831822  2.757502  4.649739   9.067672 3.1947934
## 8   6.560069   3.2570523  3.3588337  2.799896  4.820131   5.449261 4.7615295
## 9   3.344945   1.2611909  6.8961486  6.687886  5.798404   8.190399 0.2919943
## 10  7.937292   8.2069791  5.8362007 -2.845210  5.526690   8.111047 3.8501789
##        X1999      X2000     X2001       X2002    X2003     X2004      X2005
## 1   1.238042  7.6229206  4.182002  -0.9449535 1.110505  7.293728 -0.3831377
## 2   2.649285  3.2121675  3.505488   3.8338481 2.952939  5.554448  6.1624933
## 3         NA         NA -9.431974  28.6000012 8.832278  1.414118 11.2297148
## 4   1.528189  3.8424786  5.207033   9.9688021 5.597677  8.094673  5.9121109
## 5   2.181490  3.0546242  4.205999  13.6656888 2.990000 10.950000 15.0300000
## 6  12.250728  7.4628587  8.863731   4.6283959 5.333264  5.266262  5.1308219
## 7   4.099079  3.5283624  8.119358   4.5463622 8.694204  8.135676  5.3977960
## 8   2.775760  6.3464713  2.095304   1.2209280 4.300554  9.075083  5.5711199
## 9   2.902214 10.8527042  1.399085   2.4334568 8.800541  9.566437  4.8551412
## 10 -3.385457 -0.7889989 -4.408840 -10.8944848 8.837041  9.029573  8.8516599
##        X2006     X2007     X2008       X2009     X2010        X2011      X2012
## 1   1.127411  3.089544  1.835755 -11.6777414 -2.733457  3.369237184 -1.0407999
## 2   6.577439  6.646935  4.366173   0.8926514  5.207943  4.058923272  1.7679695
## 3   5.357403 13.826320  3.924984  21.3905284 14.362441  0.426354777 12.7522871
## 4   5.355184  5.502329  6.276135   6.1255292  7.032025  4.946666245  5.1405756
## 5  11.550000 14.010000 11.170000   0.8600000  4.398376  3.472053148  8.5421071
## 6   6.018981  6.500093  6.907062   2.6907515  2.973154  2.463516839  0.9841299
## 7   4.808689  1.553188 -5.559186  -5.3028465 -1.974958 -0.008069753 -4.9744437
## 8   6.282426  4.599762  5.568566   0.6426643  4.837717  3.786213062  5.0983116
## 9   9.837320  3.184390  3.191836  -5.2429219  1.602850  6.216121817  1.8244808
## 10  8.047152  9.007651  4.057233  -5.9185251 10.125398  6.003951693 -1.0264205
##        X2013     X2014      X2015      X2016      X2017     X2018     X2019
## 1   6.431483 -1.586575 -0.6236259  1.7196250  7.0485334  2.397086 -2.232442
## 2   4.317725  4.014351  3.0033669  2.1959912  2.6962378  2.665038  2.200340
## 3   5.600745  2.724543  1.4513147  2.2603142  2.6470032  1.189228  3.911603
## 4   6.028023  5.712459  2.9280096  0.1941775  2.2961675  2.904654  3.282163
## 5   4.954613  4.822559  0.9435716 -2.5800496 -0.1472129 -1.316362 -0.702273
## 6   1.707228  2.240227  2.2277041  3.9089355  3.2831759  3.671419  2.062578
## 7  -3.547597  2.504466  1.4341404  3.7096781  0.3460719  1.588765  2.015548
## 8   2.659523  2.589733  3.2942235  3.5492835  1.6048259  2.642845  1.726916
## 9   5.055560  4.165692  6.7867729  5.5614908  0.7350687  1.313914  1.108348
## 10  2.405324 -2.512615  2.7311598 -2.0803278  2.8185030 -2.617396 -2.000861
##          X2020      X2021     X2022     X2023     X2024  X
## 1  -26.2118202  24.132627  8.517918  4.263719        NA NA
## 2   -2.8597839   4.563568  3.555769  1.891307  2.766804 NA
## 3   -2.3511007 -20.738839 -6.240172  2.266944        NA NA
```

```
## 4   -0.9841174   4.030000  3.974964  3.357987  4.176103 NA
## 5   -5.6382147   1.199211  3.044727  1.078100  4.423905 NA
## 6   -3.3137564   8.969576  4.826696  3.936617  3.961719 NA
## 7  -11.1839399   8.286779  9.564612  2.583555  3.371820 NA
## 8   -4.7571450   4.404576  6.995414  1.504355  1.548919 NA
## 9   -4.9570524   4.354755  7.509697  3.618707  3.761615 NA
## 10  -9.9004848  10.441812  5.269880 -1.611002 -1.719105 NA
```

```
dbGetQuery(con, "SELECT * from \"gdp growth\" WHERE \"Country.Name\" = 'United States'")
```

```
##    Country.Name Country.Code    Indicator.Name Indicator.Code        X1960
## 1 United States          USA GDP (current US$) NY.GDP.MKTP.CD 542390475099
##          X1961        X1962        X1963        X1964        X1965       X1966
## 1 562640778342 604729643906 638380883119 685631590687 743503780837 8.14082e+11
##          X1967        X1968        X1969        X1970       X1971       X1972
## 1 860737154024 941639100804 1.018471e+12 1.073303e+12 1.16485e+12 1.27911e+12
##          X1973        X1974        X1975        X1976        X1977        X1978
## 1 1.425376e+12 1.545243e+12 1.684904e+12 1.873412e+12 2.081826e+12 2.351599e+12
##          X1979        X1980        X1981        X1982        X1983        X1984
## 1 2.627333e+12 2.857307e+12 3.207041e+12 3.343789e+12 3.634038e+12 4.037613e+12
##          X1985        X1986        X1987        X1988       X1989        X1990
## 1 4.338979e+12 4.579631e+12 4.855215e+12 5.236438e+12 5.64158e+12 5.963144e+12
##          X1991        X1992        X1993        X1994        X1995        X1996
## 1 6.158129e+12 6.520327e+12 6.858559e+12 7.287236e+12 7.639749e+12 8.073122e+12
##          X1997        X1998        X1999        X2000        X2001        X2002
## 1 8.577552e+12 9.062817e+12 9.631172e+12 1.025095e+13 1.058193e+13 1.092911e+13
##          X2003       X2004       X2005        X2006        X2007        X2008
## 1 1.145645e+13 1.22172e+13 1.30392e+13 1.381558e+13 1.447423e+13 1.476986e+13
##          X2009        X2010        X2011        X2012        X2013        X2014
## 1 1.447807e+13 1.504897e+13 1.559973e+13 1.625397e+13 1.688068e+13 1.760814e+13
##          X2015        X2016       X2017        X2018        X2019       X2020
## 1 1.829502e+13 1.880491e+13 1.96121e+13 2.065652e+13 2.153998e+13 2.13541e+13
##          X2021        X2022        X2023        X2024  X
## 1 2.368117e+13 2.600689e+13 2.772071e+13 2.918489e+13 NA
```

```
dbGetQuery(con, "SELECT * from \"gdp per capita\" WHERE \"Country.Name\" = 'United States'")
```

```
##    Country.Name Country.Code                Indicator.Name Indicator.Code
## 1 United States          USA GDP per capita (current US$) NY.GDP.PCAP.CD
##      X1960    X1961    X1962    X1963    X1964    X1965    X1966    X1967
## 1 3002.089 3062.974 3241.858 3373.357 3573.064 3826.517 4141.647 4331.581
##      X1968    X1969    X1970    X1971    X1972    X1973    X1974    X1975
## 1 4691.634 5025.095 5234.297 5609.383 6094.018 6726.359 7225.691 7801.457
##      X1976    X1977    X1978    X1979    X1980    X1981    X1982    X1983
## 1 8592.254 9452.577 10564.95 11674.18 12574.79 13976.11 14433.79 15543.89
##      X1984    X1985    X1986    X1987    X1988    X1989   X1990    X1991
## 1 17121.23 18236.83 19071.23 20038.94 21417.01 22857.15 23888.6 24342.26
##      X1992    X1993    X1994    X1995    X1996    X1997    X1998    X1999
## 1 25418.99 26387.29 27694.85 28690.88 29967.71 31459.13 32853.67 34515.38
##      X2000    X2001    X2002   X2003    X2004   X2005    X2006    X2007
## 1 36329.97 37133.62 37997.74 39490.3 41724.64 44123.4 46301.99 48050.23
##      X2008    X2009    X2010    X2011    X2012    X2013    X2014    X2015
## 1 48570.06 47194.95 48642.63 50024.88 51708.39 53297.39 55153.39 56849.47
```

```
##      X2016    X2017    X2018    X2019    X2020   X2021    X2022    X2023
## 1 57976.63 60047.72 62875.67 65227.96 64401.51 71307.4 77860.91 82304.62
##     X2024  X
## 1 85809.9 NA
```

```
dbGetQuery(con, "SELECT * from \"gdp growth rate\" WHERE \"Country.Name\" = 'United States'")
```

```
##    Country.Name Country.Code        Indicator.Name    Indicator.Code X1960
## 1 United States          USA GDP growth (annual %) NY.GDP.MKTP.KD.ZG    NA
##      X1961    X1962    X1963    X1964    X1965    X1966    X1967    X1968
## 1 2.565343 6.129637 4.357286 5.762747 6.498454 6.595342 2.742666 4.914509
##      X1969     X1970    X1971    X1972   X1973      X1974      X1975    X1976
## 1 3.122477 0.1846194 3.292722 5.255502 5.64568 -0.5405502 -0.2056192 5.388034
##      X1977    X1978    X1979      X1980    X1981     X1982    X1983    X1984
## 1 4.624187 5.535206 3.165988 -0.2567757 2.537701 -1.803014 4.583791 7.236453
##      X1985    X1986   X1987    X1988    X1989    X1990      X1991    X1992
## 1 4.169575 3.462655 3.45463 4.176982 3.672238 1.885966 -0.1083129 3.522497
##      X1993    X1994    X1995    X1996    X1997    X1998    X1999    X2000
## 1 2.751796 4.029023 2.684431 3.772773 4.447128 4.483133 4.788425 4.077586
##       X2001    X2002    X2003    X2004   X2005   X2006    X2007     X2008
## 1 0.9555383 1.700447 2.795606 3.847772 3.48355 2.78454 2.003858 0.1135872
##     X2009    X2010    X2011    X2012   X2013   X2014   X2015    X2016    X2017
## 1 -2.5765 2.695193 1.564407 2.289113 2.11783 2.52382 2.94555 1.819451 2.457622
##      X2018    X2019     X2020    X2021    X2022    X2023   X2024  X
## 1 2.966505 2.583825 -2.163029 6.055053 2.512375 2.887556 2.79619 NA
```

```
dbGetQuery(con, "SELECT * from wealth WHERE Year == 1962")
```

```
##   Percentile Year  Share
## 1    p99p100 1962 0.1284
## 2    p90p100 1962 0.3615
## 3      p0p50 1962 0.1932
```

```
# top 1% = 12.8%, top 10% = 36.2%, bottom 50% = 19.3%
dbGetQuery(con, "SELECT * from wealth WHERE Year == 2023")
```

```
##   Percentile Year  Share
## 1    p99p100 2023 0.2073
## 2    p90p100 2023 0.4676
## 3      p0p50 2023 0.1344
```

```
# top 1% = 20.73%, top 10% = 46.76%, bottom 50% = 13.44%
dbGetQuery(con, "SELECT * from wealth WHERE Share =
(SELECT MIN(Share) FROM wealth)
AND Percentile == 'p99p100'")
```

```
##   Percentile Year  Share
## 1    p99p100 1978 0.1035
```

```
# Min top 1% = 10.3% in 1978
dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p99p100'
  AND Share = (SELECT MAX(Share) FROM wealth WHERE Percentile = 'p99p100')
")
```

```
##   Percentile Year  Share
## 1    p99p100 2022 0.2073
## 2    p99p100 2023 0.2073
```

```
# Max top 1% = 20.7% in 2022-2023
dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p90p100'
  AND Share = (SELECT MIN(Share) FROM wealth WHERE Percentile = 'p90p100')
")
```

```
##   Percentile Year  Share
## 1    p90p100 1970 0.3355
```

```
# Min top 10% = 33.6% in 1970
dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p90p100'
  AND Share = (SELECT MAX(Share) FROM wealth WHERE Percentile = 'p90p100')
")
```

```
##   Percentile Year  Share
## 1    p90p100 2022 0.4686
```

```
# Max top 10% = 46.9% in 2022
dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p0p50'
  AND Share = (SELECT MIN(Share) FROM wealth WHERE Percentile = 'p0p50')
")
```

```
##   Percentile Year  Share
## 1      p0p50 2016 0.1295
```

```
# Min Bottom 50% = 12.95% in 2016
dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p0p50'
  AND Share = (SELECT MAX(Share) FROM wealth WHERE Percentile = 'p0p50')
")
```

```
##   Percentile Year  Share
## 1      p0p50 1969 0.2124
```

```
# Max Bottom 50% = 21.24% in 2016
```

```
topone_df <- dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p99p100'")

topten_df <- dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p90p100'")

bothalf_df <- dbGetQuery(con, "
  SELECT *
  FROM wealth
  WHERE Percentile = 'p0p50'")

amergdpgrowth_df <- dbGetQuery(con, "
  SELECT *
  FROM \"gdp growth\"
  WHERE `Country.Name` = 'United States'")

amergdpgrowthrate_df <- dbGetQuery(con, "
  SELECT *
  FROM \"gdp growth rate\"
  WHERE `Country.Name` = 'United States'")

amergdppercap_df <- dbGetQuery(con, "
  SELECT *
  FROM \"gdp per capita\"
  WHERE `Country.Name` = 'United States'")

home_df <- dbGetQuery(con, "SELECT * FROM \"home prices\" WHERE RegionName = 'United States'")
```

```
inflationrate_df <- read.csv("datafiles/inflarate.csv")
inflationrate_df$observation_date <- as.integer(inflationrate_df$observation_date)
```

```
## Warning: NAs introduced by coercion
```

```
library(dplyr)
```

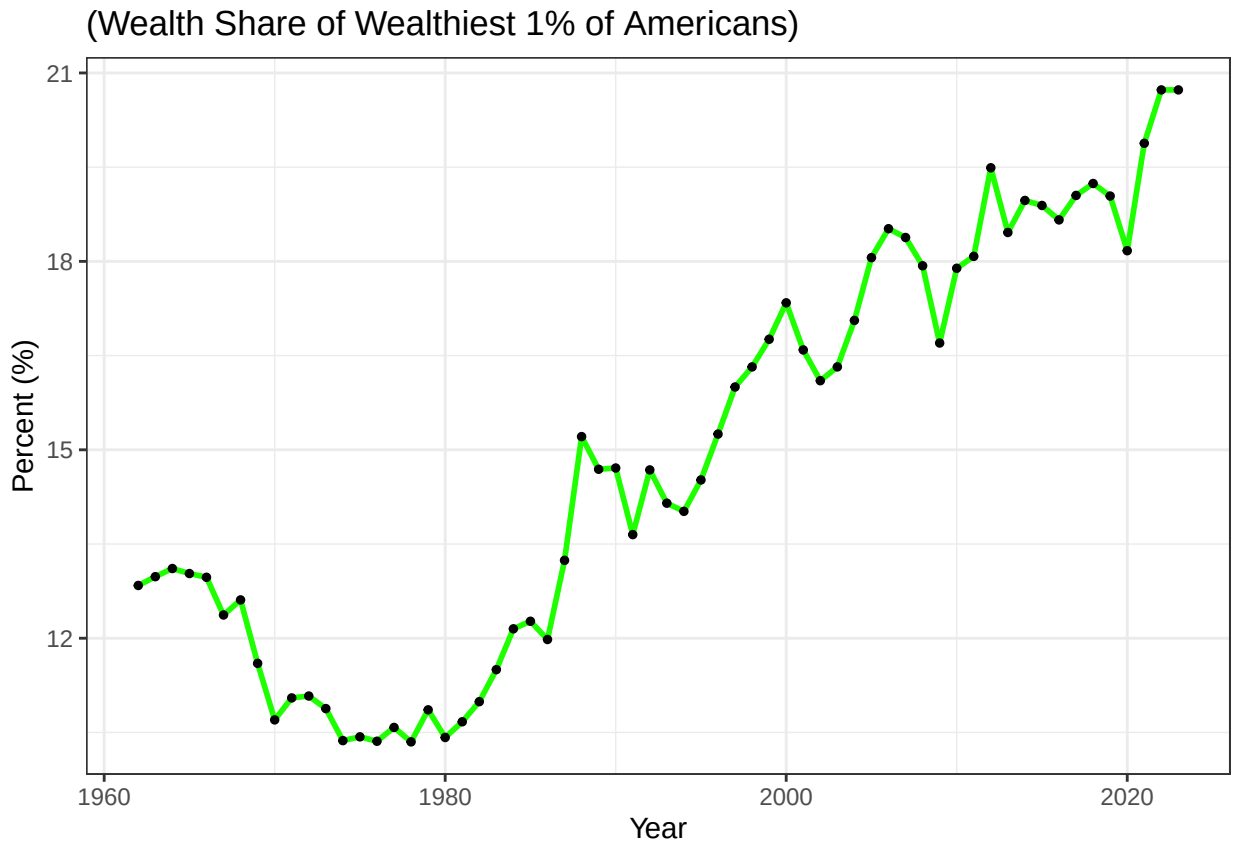
```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

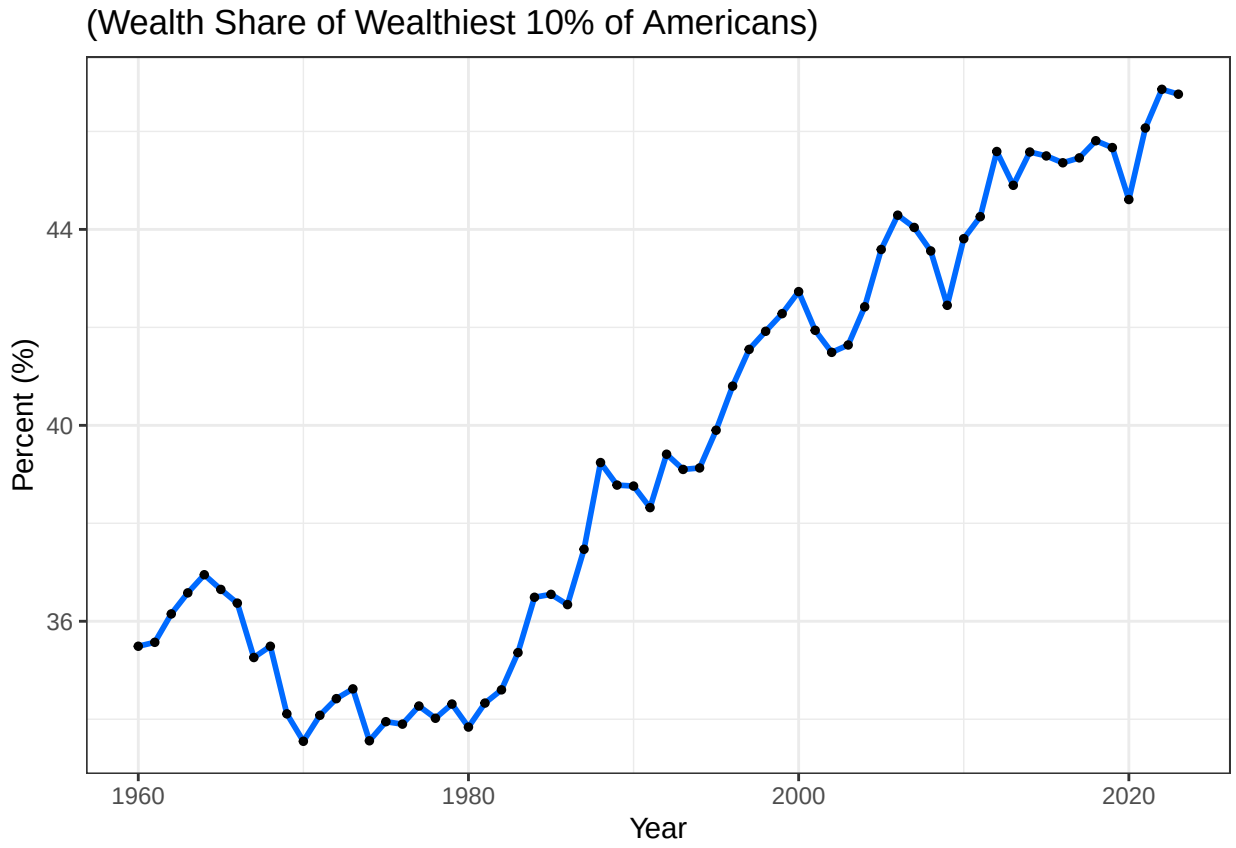
```
library(tidyr)
library(ggplot2)


ggplot(topone_df, aes(x = Year, y = Share * 100)) +
  geom_line(color = "#1eff00", size = 1) +
  geom_point(size = 1) +
  labs(title = "(Wealth Share of Wealthiest 1% of Americans)",
       x = "Year", y = "Percent (%)") +
  theme_bw()
```

```
## Warning: Using 'size' aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use 'linewidth' instead.
## This warning is displayed once every 8 hours.
## Call 'lifecycle::last_lifecycle_warnings()' to see where this warning was
## generated.
```

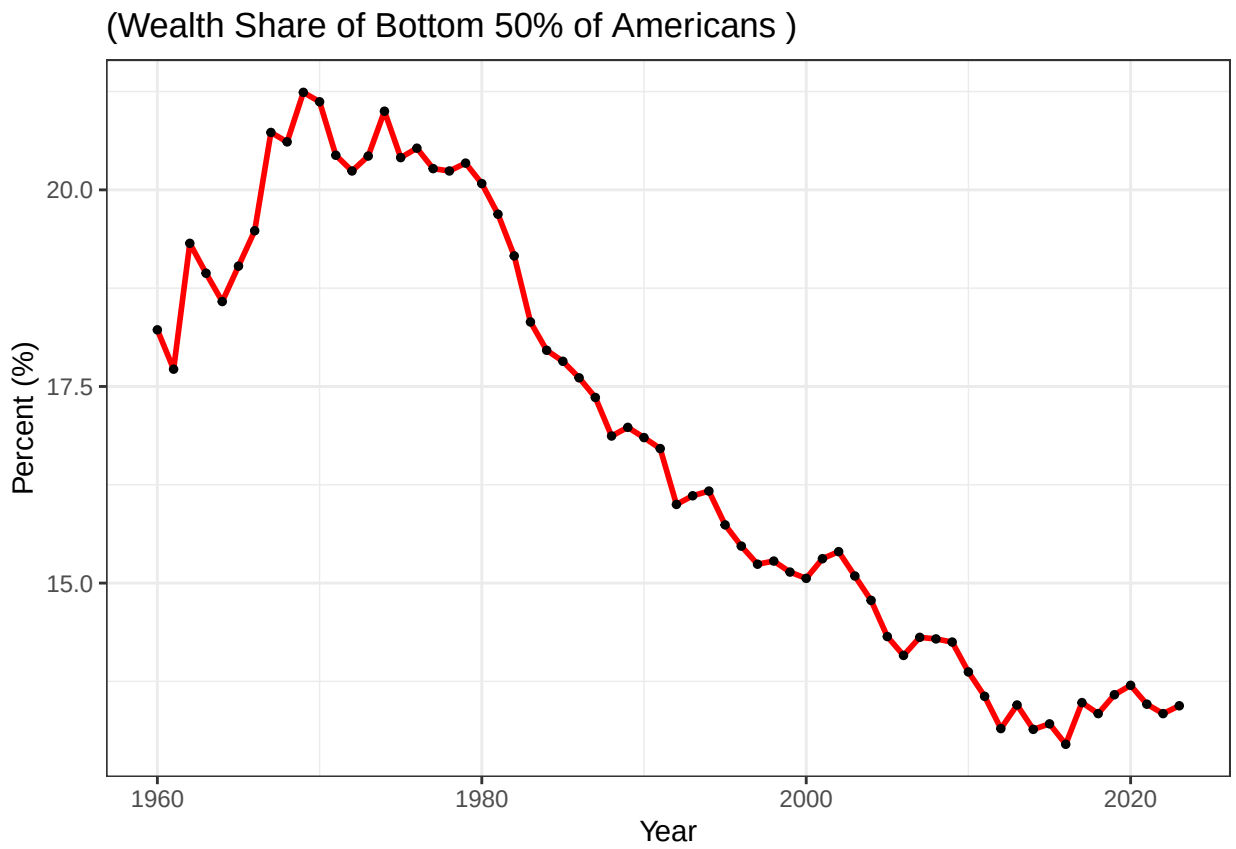



```
ggplot(topten_df, aes(x = Year, y = Share * 100)) +
  geom_line(color = "#006aff", size = 1) +
  geom_point(size = 1) +
  labs(title = "(Wealth Share of Wealthiest 10% of Americans)",
```

```
      x = "Year", y = "Percent (%)") +
  theme_bw()
```



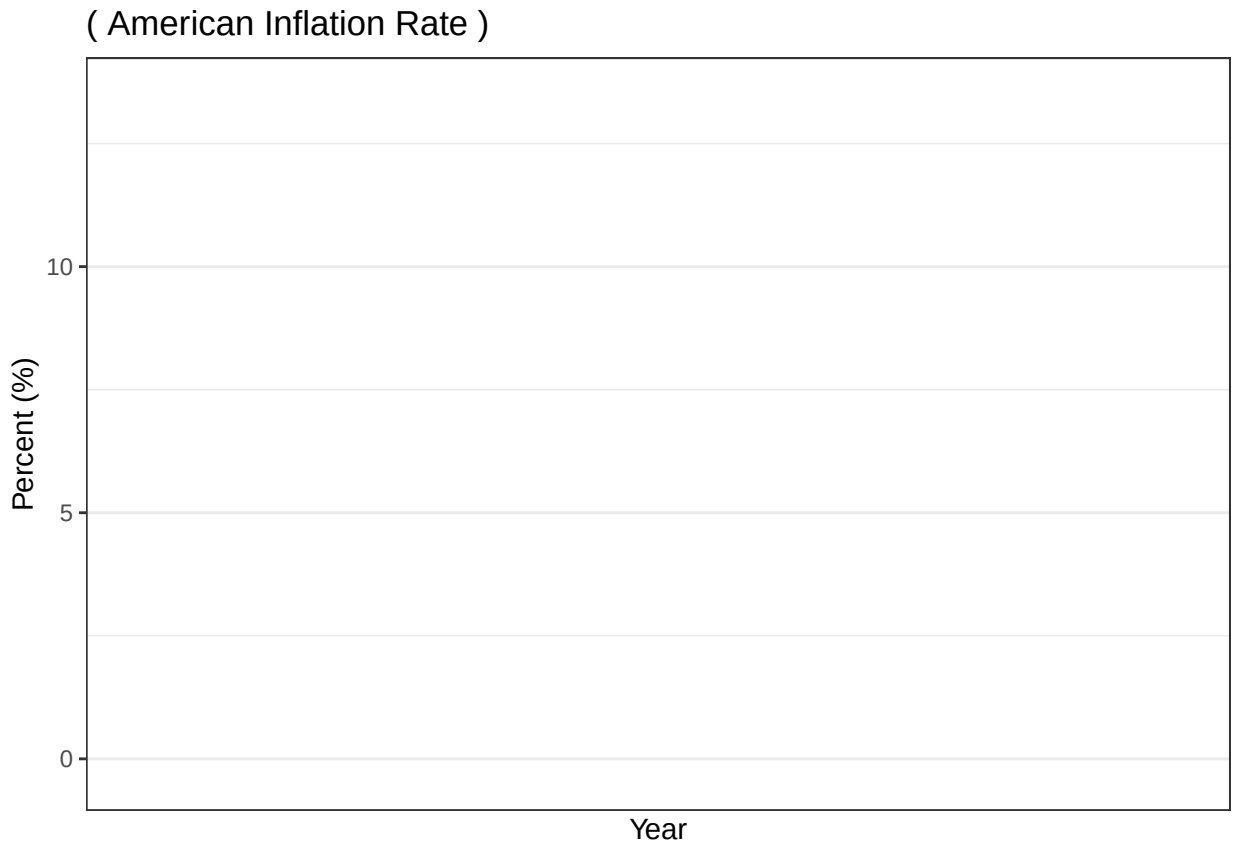

```
ggplot(bothalf_df, aes(x = Year, y = Share * 100)) +
  geom_line(color = "#ff0000", size = 1) +
  geom_point(size = 1) +
  labs(title = "(Wealth Share of Bottom 50% of Americans )",
       x = "Year", y = "Percent (%)") +
  theme_bw()
```




```
ggplot(inflationrate_df, aes(x = observation_date, y = FPCPITOTLZGUSA, group=1)) +
  geom_line(color = "#ffee00", size = 1) +
  scale_x_continuous(breaks = seq(1960, 2025, by = 10)) +
  geom_point(size = 1) +
  labs(title = "( American Inflation Rate )",
       x = "Year", y = "Percent (%)") +
  theme_bw()
```

```
## Warning: Removed 65 rows containing missing values or values outside the scale range
## (`geom_line()`).
```

```
## Warning: Removed 65 rows containing missing values or values outside the scale range
## (`geom_point()`).
```




```
inflationrate_df <- inflationrate_df%>%
  mutate(observation_date = substr(observation_date, 1, nchar(observation_date) - 6))
```

```
workpop_df <- workingpopulation_df %>%
  slice(11:n())

unempop_df <- unemployedpopulation_df %>%
  slice(11:n())

unemrate_df <- unemploymentrate_df %>%
  slice(11:n())
```

```
if (is.factor(inflation_df$observation_date)) {
  inflation_df$observation_date <- as.character(inflation_df$observation_date)
}
inflation_df$observation_date <- as.Date(paste0(inflation_df$observation_date, "-01"), format = "%Y-%m-%
```

```
unemrate_df$...2 <- as.numeric(unemrate_df$...2)
```

```
## Warning: NAs introduced by coercion
```

```
unemrate_df$`Labor Force Statistics from the Current Population Survey` <- as.numeric(unemrate_df$`Labo
```

```
## Warning: NAs introduced by coercion
```

```r
unempop_df$...2 <- as.numeric(unempop_df$...2)
```

```
## Warning: NAs introduced by coercion
```

```r
unempop_df$`Labor Force Statistics from the Current Population Survey` <- as.numeric(unempop_df$`Labor
```

```
## Warning: NAs introduced by coercion
```

```r
workpop_df$...2 <- as.numeric(workpop_df$...2)
```

```
## Warning: NAs introduced by coercion
```

```r
workpop_df$`Labor Force Statistics from the Current Population Survey` <- as.numeric(workpop_df$`Labor
```

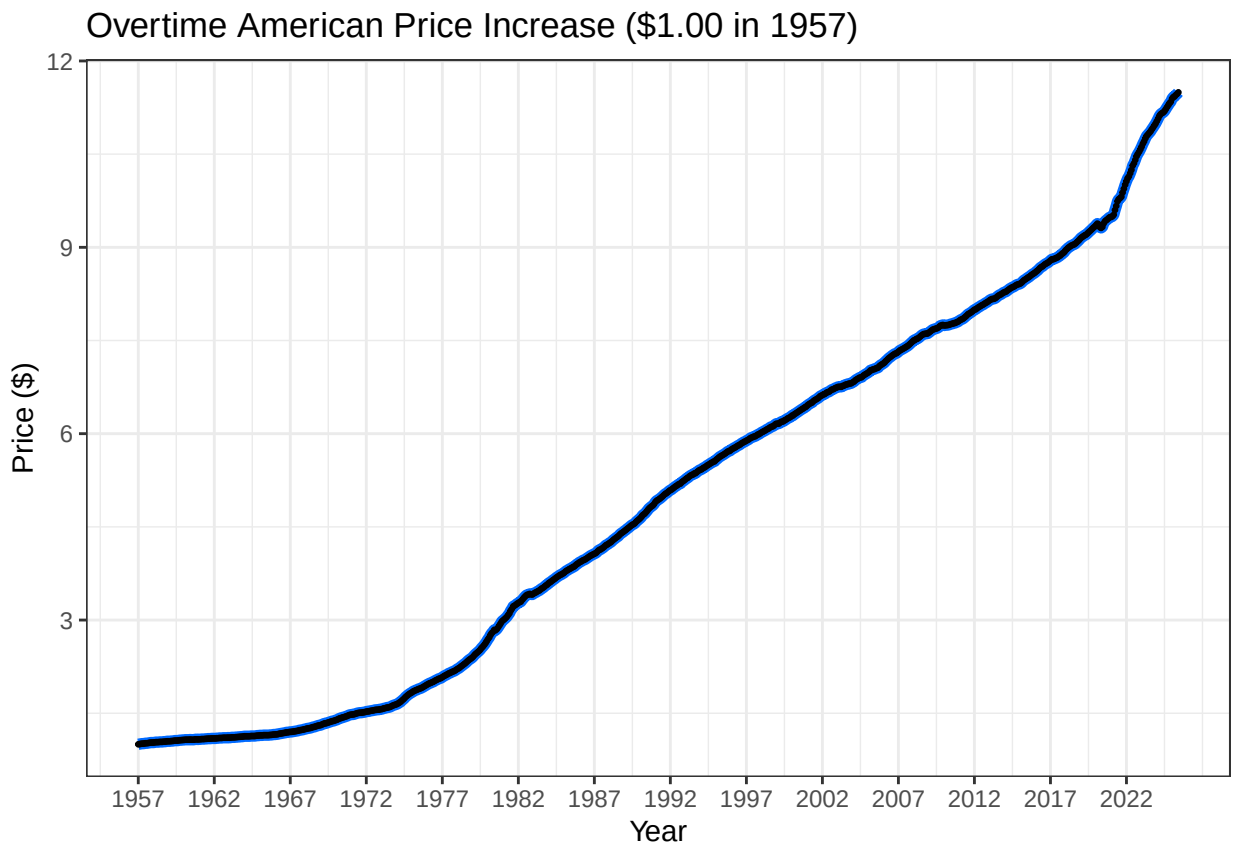
```
## Warning: NAs introduced by coercion
```

```r
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
```

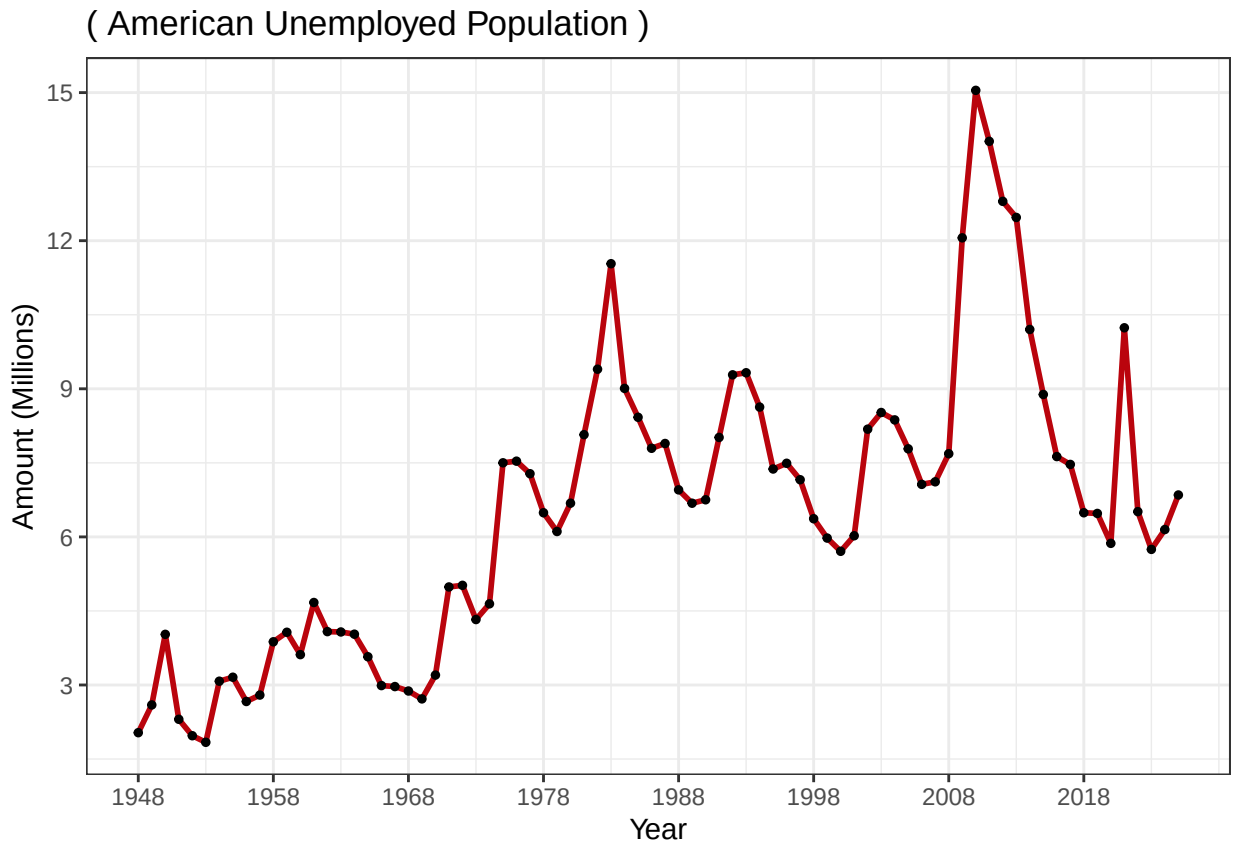
```
## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union
```

```r
library(ggplot2)
library(dplyr)


ggplot(inflation_df, aes(x = observation_date, y = CPILFESL / 28.5)) +
  geom_line(color = "#006aff", size = 2) +
  geom_point(size = 0.5) +
  scale_x_date(breaks = seq(from = as.Date("1957-01-01"),
                            to = as.Date("2025-06-01"),
                            by = "5 years"),
               date_labels = "%Y") +
  labs(title = "Overtime American Price Increase ($1.00 in 1957)",
       x = "Year", y = "Price ($)") +
  theme_bw()
```

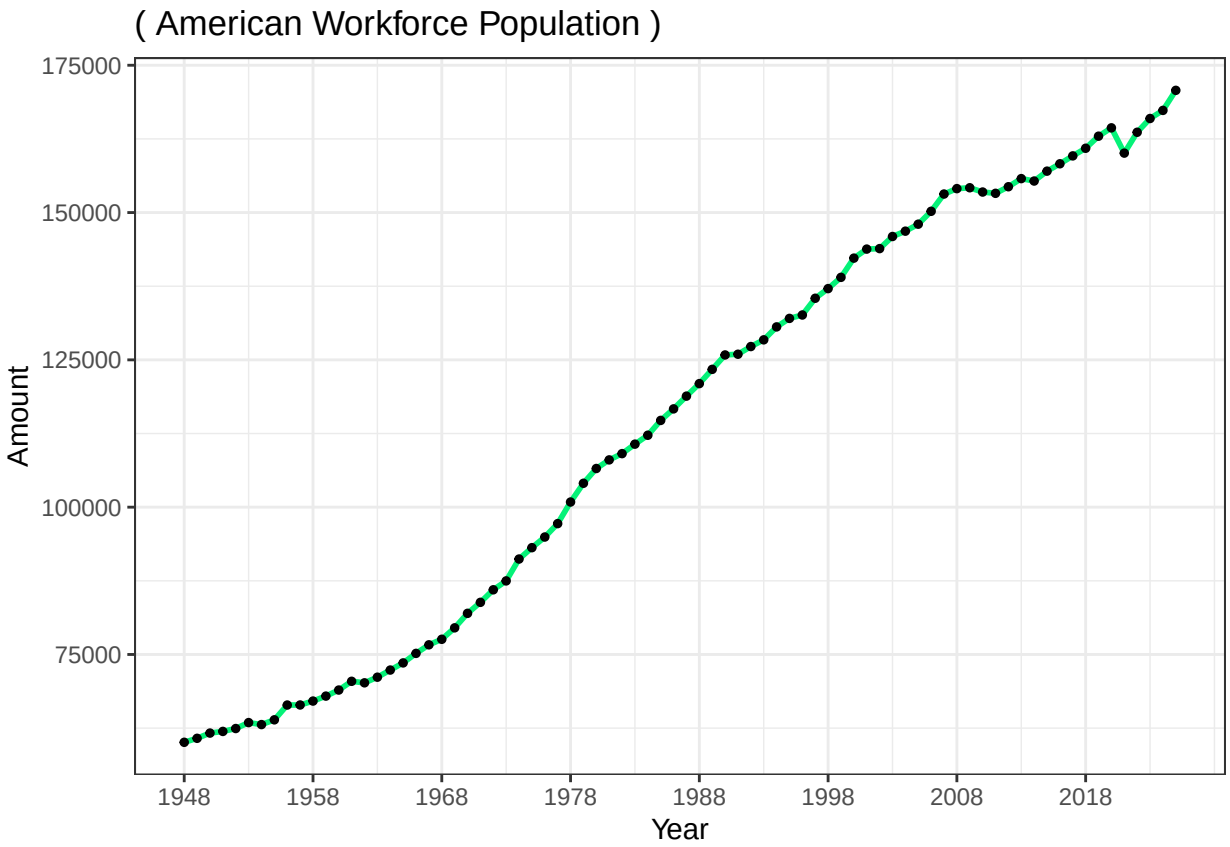



```
ggplot(filter(unemrate_df, row_number() != 1), aes(x = `Labor Force Statistics from the Current Populati
  geom_line(color = "#ff2b36", size = 1) +
  scale_x_continuous(breaks = seq(1948, 2025, by = 10)) +
  scale_y_continuous(breaks = seq(0, 12, by = 1)) +
  geom_point(size = 1) +
  labs(title = "( American Unemployment Rate )",
       x = "Year", y = "Percent (%)") +
  theme_bw()
```


```
ggplot(filter(unempop_df, row_number() != 1), aes(x = `Labor Force Statistics from the Current Populati
  geom_line(color = "#ba040d", size = 1) +
  scale_x_continuous(breaks = seq(1948, 2025, by = 10)) +
  scale_y_continuous(breaks = seq(0, 20, by = 3)) +
  geom_point(size = 1) +
  labs(title = "( American Unemployed Population )",
       x = "Year", y = "Amount (Millions)") +
  theme_bw()
```




```
ggplot(filter(workpop_df, row_number() != 1), aes(x = `Labor Force Statistics from the Current Populati
  geom_line(color = "#05f278", size = 1) +
  scale_x_continuous(breaks = seq(1948, 2025, by = 10)) +
  geom_point(size = 1) +
  labs(title = "( American Workforce Population )",
       x = "Year", y = "Amount") +
  theme_bw()
```

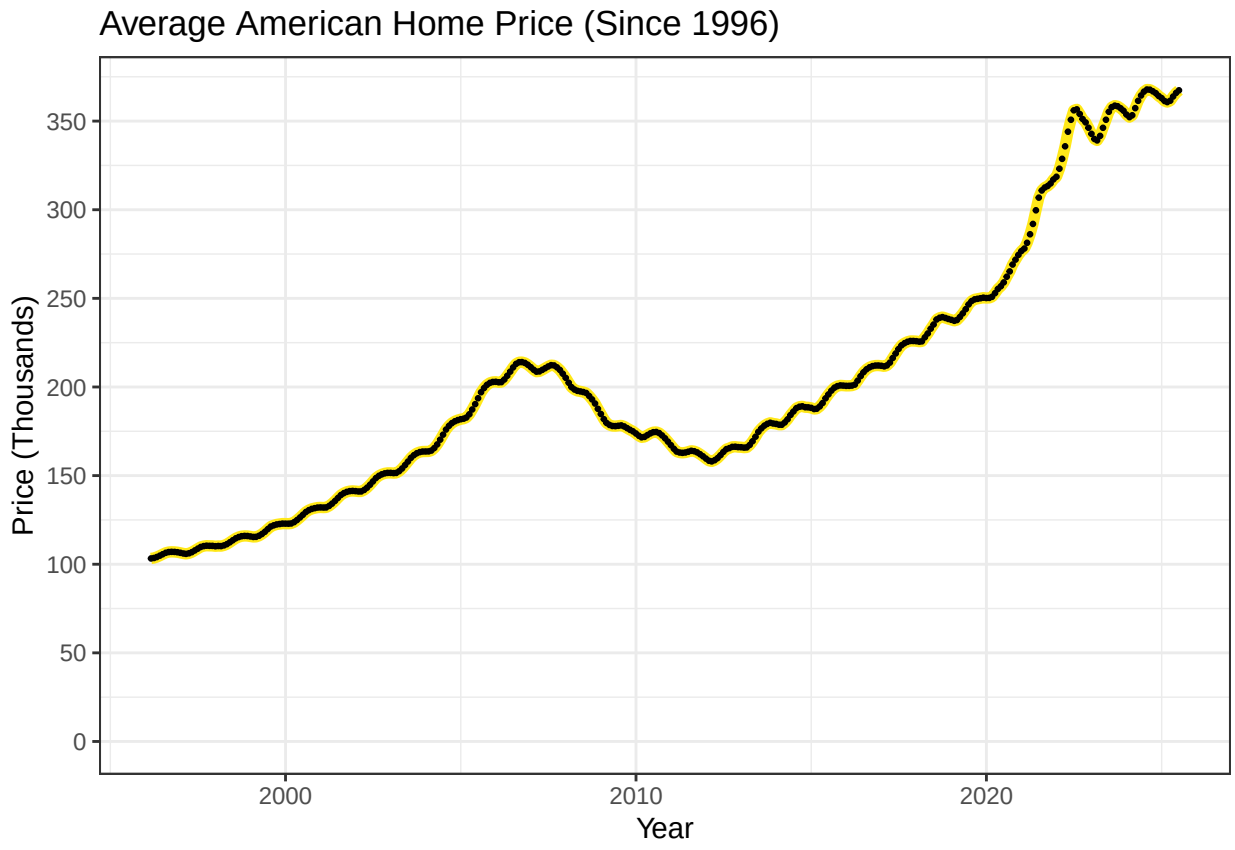



```
avgwage_df <- read.csv("datafiles/avgwage.csv")

ggplot(avgwage_df, aes(x = Year, y = Index, group=1)) +
  geom_line(color = "#ff0310", size = 1) +
  geom_point(size = 1) +
  labs(title = "( Average American Wage )",
       x = "Year", y = "Amount ($)") +
  theme_bw()
```


```
library(tidyr)
library(dplyr)

amergdpgrowth_df <- amergdpgrowth_df %>%
  pivot_longer(
    cols = starts_with("X"),
    names_to = "Year",
    values_to = "GDP"
  ) %>%
  mutate(Year = as.numeric(sub("X", "", Year)))
amergdpgrowthrate_df <- amergdpgrowthrate_df %>%
  pivot_longer(
    cols = starts_with("X"),
    names_to = "Year",
    values_to = "GDP"
  ) %>%
  mutate(Year = as.numeric(sub("X", "", Year)))

amergdppercap_df <- amergdppercap_df %>%
  pivot_longer(
    cols = starts_with("X"),
    names_to = "Year",
    values_to = "GDP"
  ) %>%
  mutate(Year = as.numeric(sub("X", "", Year)))
```

```r
home_df <- home_df %>%
  pivot_longer(
    cols = starts_with("X"),
    names_to = "Year",
    values_to = "Price"
  ) %>%
  mutate(Year = sub("X", "", Year))

home_df$Year <- as.Date(home_df$Year, format = "%Y.%m.%d")
```

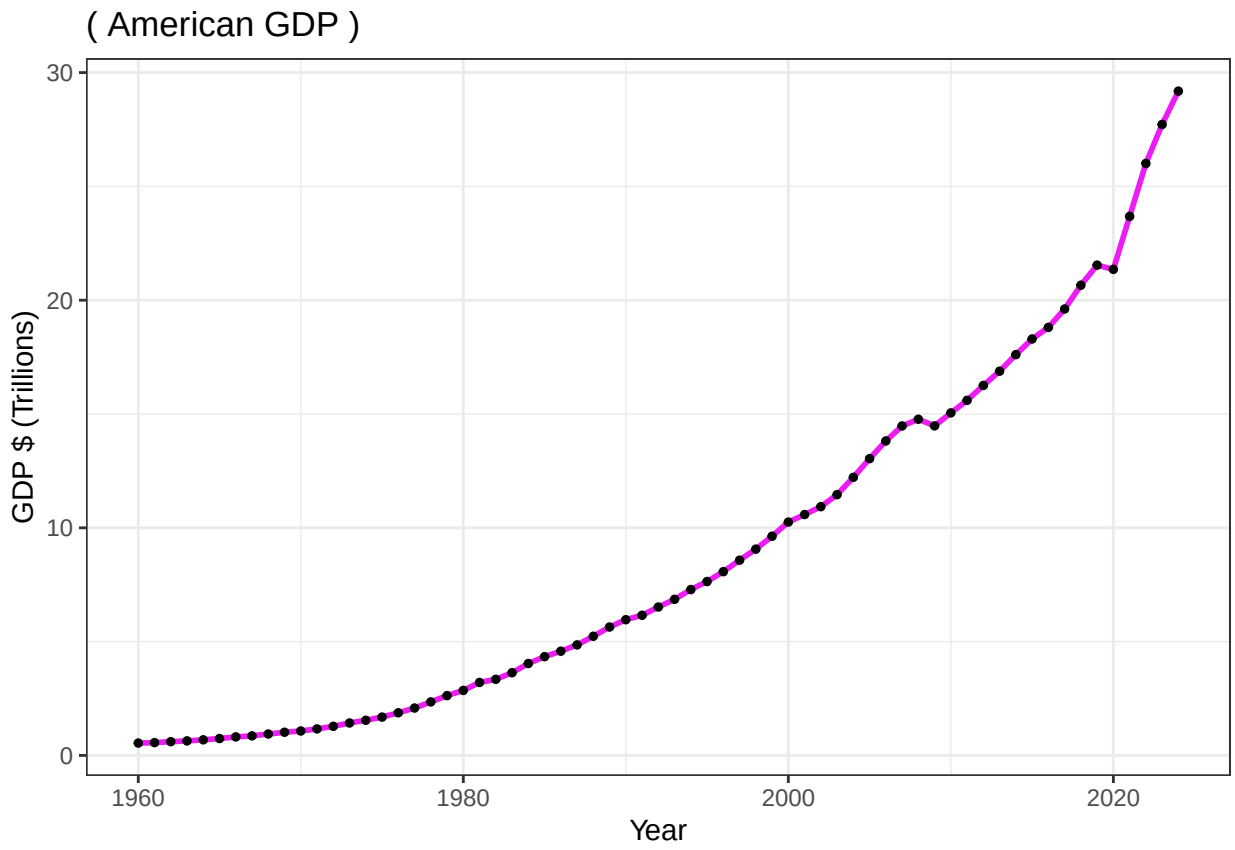
```r
ggplot(home_df, aes(x = Year, y = Price / 1000)) +
  geom_line(color = "#ffe819", size = 2) +
  geom_point(size = 0.5) +
  scale_y_continuous(limits = c(0, NA), breaks = seq(0, 400, by = 50)) +
  labs(title = "Average American Home Price (Since 1996)",
       x = "Year", y = "Price (Thousands)") +
  theme_bw()
```




```r
ggplot(amergdpgrowth_df, aes(x = Year, y = GDP /1000000000000)) +
  geom_line(color = "#eb1df2", size = 1) +
  geom_point(size = 1) +
  labs(title = "( American GDP )",
       x = "Year", y = "GDP $ (Trillions)") +
  theme_bw()
```

```
## Warning: Removed 1 row containing missing values or values outside the scale range
## (`geom_line()`).
```

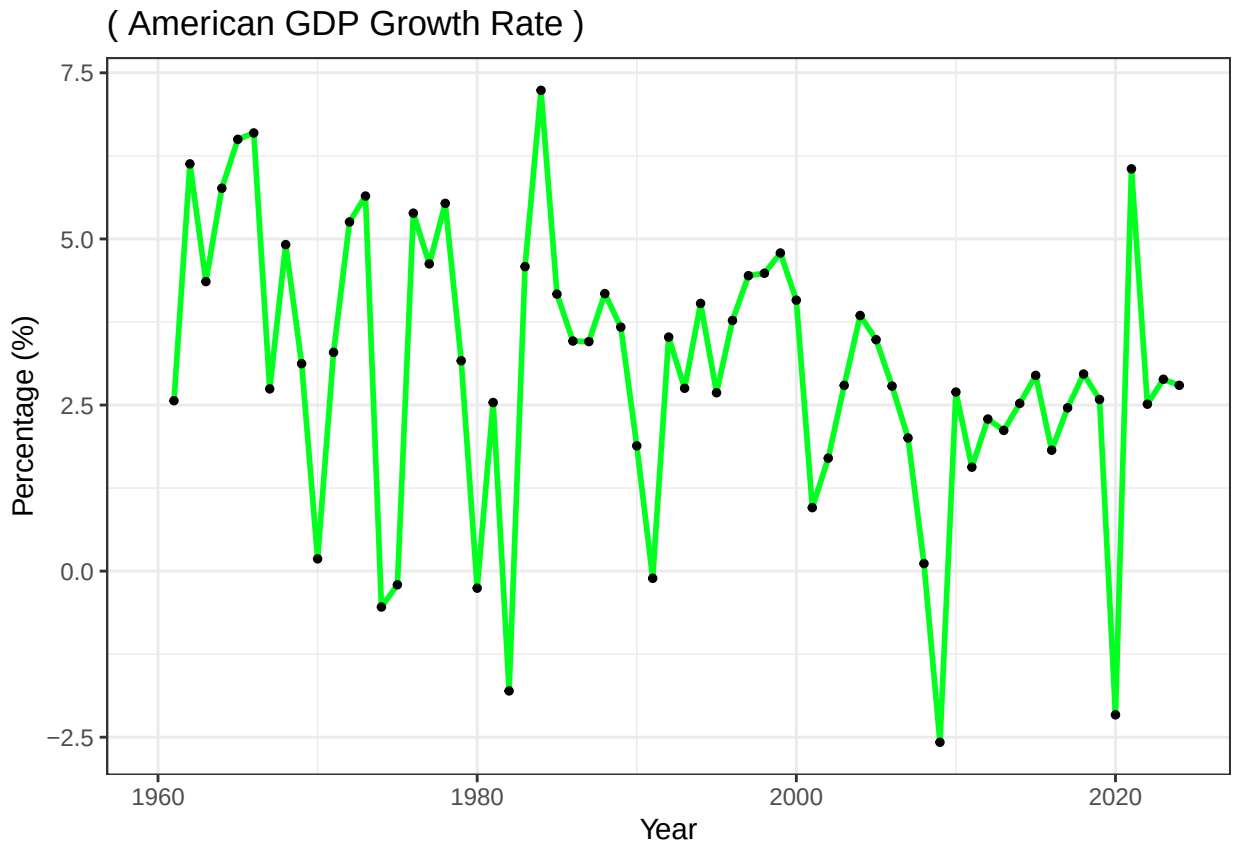
```
## Warning: Removed 1 row containing missing values or values outside the scale range
## (`geom_point()`).
```




```
ggplot(amergdpgrowthrate_df, aes(x = Year, y = GDP)) +
  geom_line(color = "#03ff20", size = 1) +
  geom_point(size = 1) +
  labs(title = "( American GDP Growth Rate )",
       x = "Year", y = "Percentage (%)") +
  theme_bw()
```

```
## Warning: Removed 2 rows containing missing values or values outside the scale range
## (`geom_line()`).
```

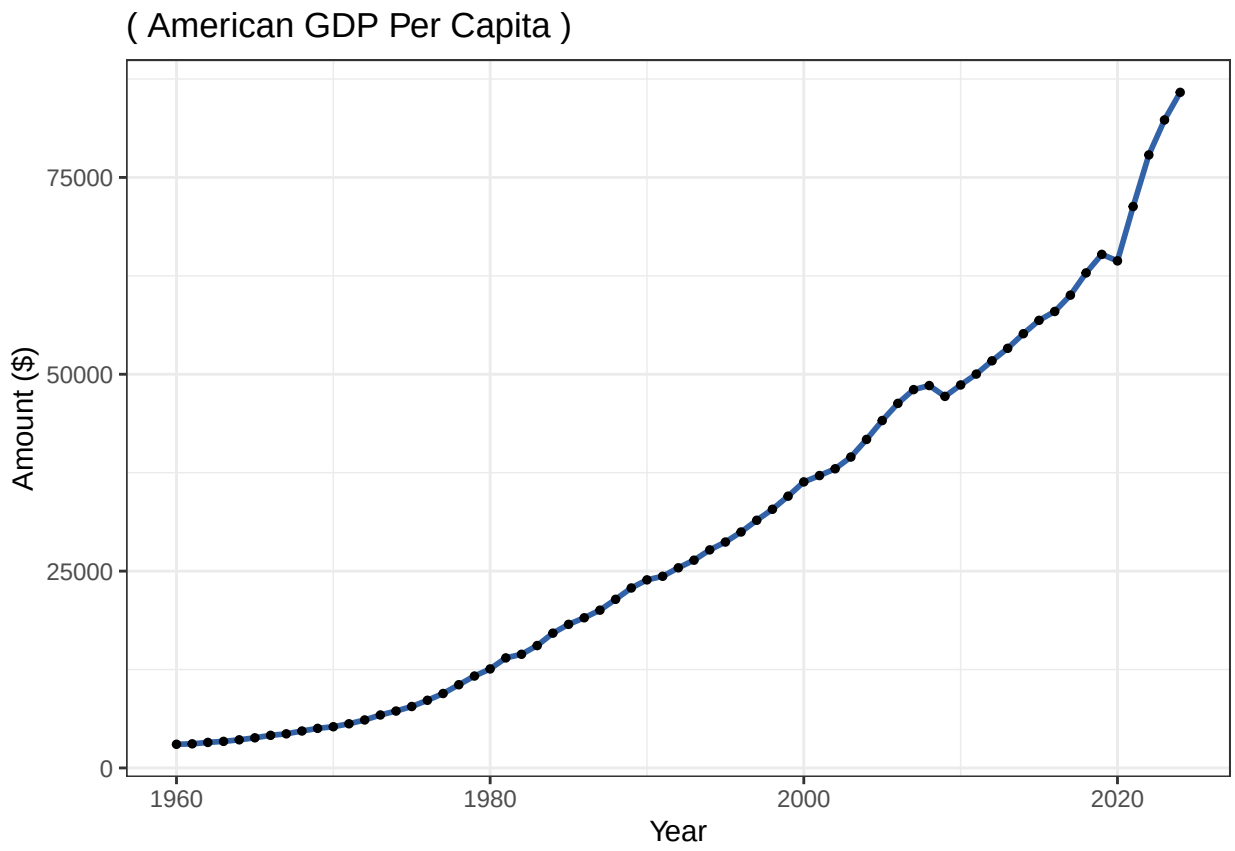
```
## Warning: Removed 2 rows containing missing values or values outside the scale range
## (`geom_point()`).
```



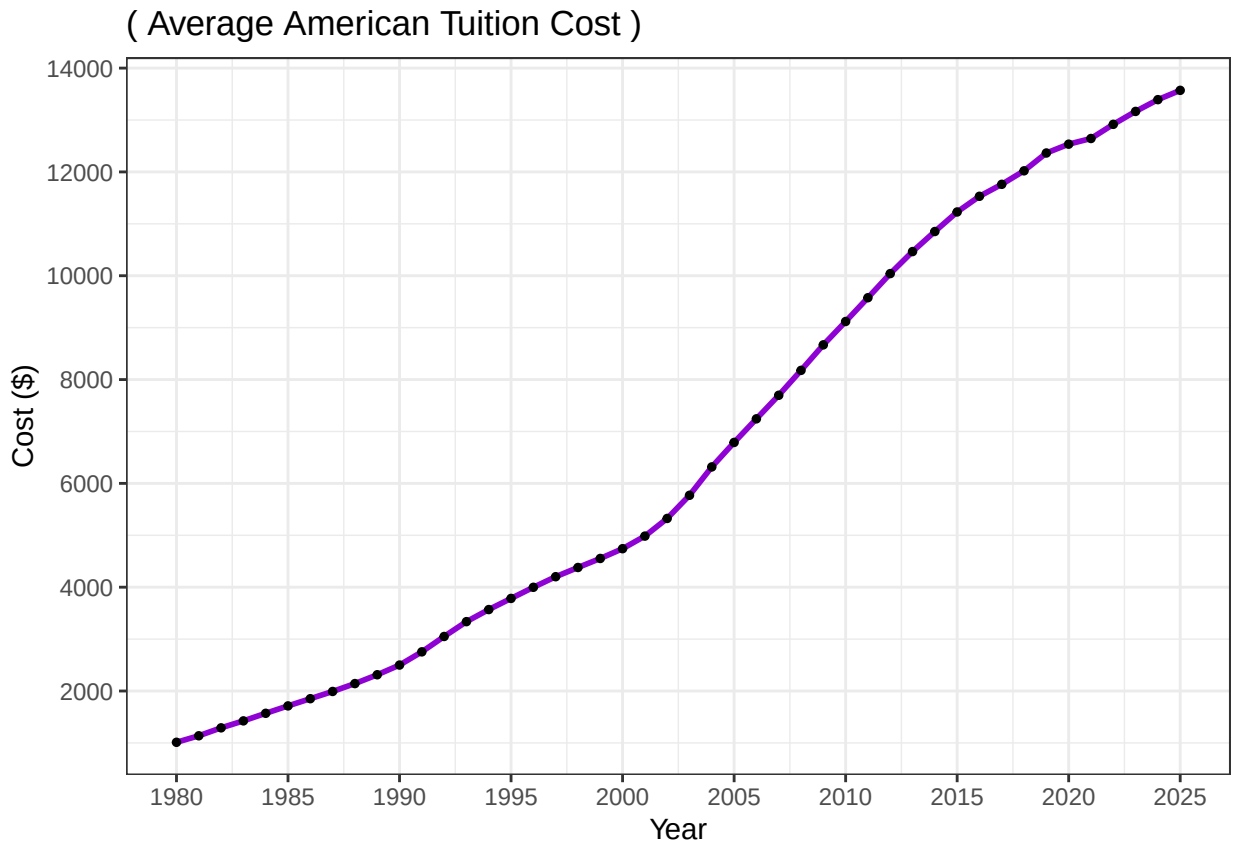

```
ggplot(amergdppercap_df, aes(x = Year, y = GDP)) +
  geom_line(color = "#3263a8", size = 1) +
  geom_point(size = 1) +
  labs(title = "( American GDP Per Capita )",
       x = "Year", y = "Amount ($)") +
  theme_bw()
```

```
## Warning: Removed 1 row containing missing values or values outside the scale range
## (‘geom_line()‘).
```

```
## Warning: Removed 1 row containing missing values or values outside the scale range
## (‘geom_point()‘).
```




```
library(dplyr)
library(tidyr)
library(ggplot2)

tuition_df <- read.csv("datafiles/tuition.csv")

ggplot(tuition_df, aes(x = Year, y = Estimated_Tuition)) +
  geom_line( color = "#8e02d4", size = 1) +
  scale_x_continuous(breaks = seq(1980, 2025, by = 5)) +
  scale_y_continuous(breaks = seq(0, 14000, by = 2000)) +
  geom_point(size = 1) +
  labs(title = "( Average American Tuition Cost )", x = "Year", y = "Cost ($)") +
  theme_bw()
```


(Average American Tuition Cost)
14000
12000
10000
8000
6000
4000
2000
Cost ($)
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
Year