exerciceSeance3

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Installation des librairies

```
install.packages("gsheet")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```
install.packages("dplyr")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```
install.packages("tidyr")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```
install.packages("readr")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```
library(gsheet)
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(readr)
```

Etape 1 : Importer via un csv

```
gdp <- read.csv("/cloud/project/chapter6data.csv", na.strings = c("","NA"))

colnames(gdp)
```

```
##  [1] "X1"      "country" "X1960"   "X1961"   "X1962"   "X1963"   "X1964"
```

```
##  [8] "X1965"   "X1966"   "X1967"   "X1968"   "X1969"   "X1970"   "X1971"
## [15] "X1972"   "X1973"   "X1974"   "X1975"   "X1976"   "X1977"   "X1978"
## [22] "X1979"   "X1980"   "X1981"   "X1982"   "X1983"   "X1984"   "X1985"
## [29] "X1986"   "X1987"   "X1988"   "X1989"   "X1990"   "X1991"   "X1992"
## [36] "X1993"   "X1994"   "X1995"   "X1996"   "X1997"   "X1998"   "X1999"
## [43] "X2000"   "X2001"   "X2002"   "X2003"   "X2004"   "X2005"   "X2006"
## [50] "X2007"   "X2008"   "X2009"   "X2010"   "X2011"   "X2012"   "X2013"
## [57] "X2014"   "X2015"   "X2016"   "X2017"
```

Étape 2 : Importer via une feuille de calcul

```
locations <- gsheet2tbl(" https://docs.google.com/spreadsheets/d/1nehKEBKTQx11LZuo5ZJFKTVS0p5y1ysMPSOSX

colnames(locations)
```

```
## [1] "country"   "capital"   "long"      "lat"       "continent"
```

Etape 3 : Supprimer la colonne: X1 du bloc de données gdp

```
gdp$X1 <- NULL

colnames(gdp)
```

```
##  [1] "country" "X1960"   "X1961"   "X1962"   "X1963"   "X1964"   "X1965"
##  [8] "X1966"   "X1967"   "X1968"   "X1969"   "X1970"   "X1971"   "X1972"
## [15] "X1973"   "X1974"   "X1975"   "X1976"   "X1977"   "X1978"   "X1979"
## [22] "X1980"   "X1981"   "X1982"   "X1983"   "X1984"   "X1985"   "X1986"
## [29] "X1987"   "X1988"   "X1989"   "X1990"   "X1991"   "X1992"   "X1993"
## [36] "X1994"   "X1995"   "X1996"   "X1997"   "X1998"   "X1999"   "X2000"
## [43] "X2001"   "X2002"   "X2003"   "X2004"   "X2005"   "X2006"   "X2007"
## [50] "X2008"   "X2009"   "X2010"   "X2011"   "X2012"   "X2013"   "X2014"
## [57] "X2015"   "X2016"   "X2017"
```

Step 4 : Filter the data

```
gdp2 <- filter(gdp, country == "Canada" | country == "Japan" | country == "United States" | country ==

colnames(gdp2)
```

```
##  [1] "country" "X1960"   "X1961"   "X1962"   "X1963"   "X1964"   "X1965"
##  [8] "X1966"   "X1967"   "X1968"   "X1969"   "X1970"   "X1971"   "X1972"
## [15] "X1973"   "X1974"   "X1975"   "X1976"   "X1977"   "X1978"   "X1979"
## [22] "X1980"   "X1981"   "X1982"   "X1983"   "X1984"   "X1985"   "X1986"
## [29] "X1987"   "X1988"   "X1989"   "X1990"   "X1991"   "X1992"   "X1993"
## [36] "X1994"   "X1995"   "X1996"   "X1997"   "X1998"   "X1999"   "X2000"
## [43] "X2001"   "X2002"   "X2003"   "X2004"   "X2005"   "X2006"   "X2007"
## [50] "X2008"   "X2009"   "X2010"   "X2011"   "X2012"   "X2013"   "X2014"
## [57] "X2015"   "X2016"   "X2017"
```

Etape 5 : “Rallonge” les données

```
gdp3 <- pivot_longer(gdp2, cols = -country, names_to = "year", values_to ="gdp")

colnames(gdp3)
```

```
## [1] "country" "year"    "gdp"
```

Étape 6 : Fusionner les jeux de données

```
gdp4 <- left_join(locations, gdp3,  c("country"))

colnames(gdp4)
```

```
## [1] "country"   "capital"   "long"      "lat"       "continent" "year"
## [7] "gdp"
```