---

title: 'Exploratory Data Analysis'

author: "Cheng Peng"

date: " "

output:

html\_document:

toc: yes

toc\_depth: 4

toc\_float: yes

fig\_width: 4

fig\_caption: yes

number\_sections: yes

theme: readable

fig\_height: 4

word\_document:

toc: yes

toc\_depth: 4

fig\_caption: yes

keep\_md: yes

pdf\_document:

toc: yes

toc\_depth: 4

fig\_caption: yes

number\_sections: yes

fig\_width: 3

fig\_height: 3

editor\_options:

chunk\_output\_type: inline

---

```{=html}

<style type="text/css">

/\* Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML. it is a simple mechanism for adding style (e.g., fonts, colors, spacing) to Web documents. \*/

h1.title { /\* Title - font specifications of the report title \*/

font-size: 24px;

color: DarkRed;

text-align: center;

font-family: "Gill Sans", sans-serif;

}

h4.author { /\* Header 4 - font specifications for authors \*/

font-size: 20px;

font-family: system-ui;

color: DarkRed;

text-align: center;

}

h4.date { /\* Header 4 - font specifications for the date \*/

font-size: 18px;

font-family: system-ui;

color: DarkBlue;

text-align: center;

}

h1 { /\* Header 1 - font specifications for level 1 section title \*/

font-size: 22px;

font-family: "Times New Roman", Times, serif;

color: navy;

text-align: center;

}

h2 { /\* Header 2 - font specifications for level 2 section title \*/

font-size: 20px;

font-family: "Times New Roman", Times, serif;

color: navy;

text-align: left;

}

h3 { /\* Header 3 - font specifications of level 3 section title \*/

font-size: 18px;

font-family: "Times New Roman", Times, serif;

color: navy;

text-align: left;

}

h4 { /\* Header 4 - font specifications of level 4 section title \*/

font-size: 18px;

font-family: "Times New Roman", Times, serif;

color: darkred;

text-align: left;

}

body { background-color:white; }

.highlightme { background-color:yellow; }

p { background-color:white; }

</style>

```

```{r setup, include=FALSE}

# code chunk specifies whether the R code, warnings, and output

# will be included in the output files.

if (!require("knitr")) {

install.packages("knitr")

library(knitr)

}

if (!require("MASS")) {

install.packages("MASS")

library(MASS)

}

if (!require("leaflet")) {

install.packages("leaflet")

library(leaflet)

}

if (!require("factoextra")) {

install.packages("factoextra")

library(factoextra)

}

if (!require("webshot")) {

install.packages("webshot")

library(webshot)

}

if (!require("TSstudio")) {

install.packages("TSstudio")

library(TSstudio)

}

if (!require("plotrix")) {

install.packages("plotrix")

library(plotrix)

}

if (!require("ggridges")) {

install.packages("ggridges")

library(ggridges)

}

if (!require("tidyverse")) {

install.packages("tidyverse")

library(tidyverse)

}

if (!require("GGally")) {

install.packages("GGally")

library(GGally)

}

knitr::opts\_chunk$set(echo = TRUE, # include code chunk in the

# output file

warnings = FALSE, # sometimes, you code may

# produce warning messages,

# you can choose to include

# the warning messages in

# the output file.

results = TRUE, # you can also decide whether

# to include the output

# in the output file.

message = FALSE

)

```