Week 5 & 6

Code

Hide

```
#load libraries
library(ggplot2)
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
```

Hide

```
library(tidyr)
library(treemap) #for treemap
```

```
Registered S3 method overwritten by 'data.table':
  method           from
  print.data.table
Registered S3 methods overwritten by 'htmltools':
  method               from
  print.html           tools:rstudio
  print.shiny.tag      tools:rstudio
  print.shiny.tag.list tools:rstudio
```

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```
library(hrbrthemes)
```

```
Registering Windows fonts with R
NOTE: Either Arial Narrow or Roboto Condensed fonts are required to use these themes.
      Please use hrbrthemes::import_roboto_condensed() to install Roboto Condensed and
      if Arial Narrow is not on your system, please see https://bit.ly/arialnarrow
```

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```
library(pivottabler)
```

```
Registered S3 method overwritten by 'htmlwidgets':
  method           from
  print.htmlwidget tools:rstudio
```

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```
library(areaplot)
```

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```
#import data
data1 = read.delim("C:\\Users\\longr\\Documents\\DSC 640\\Week 5 & 6\\3.2 Exercises\\expenditure
s.txt", sep = '\t')
data2 = read.csv("C:\\Users\\longr\\Documents\\DSC 640\\Week 5 & 6\\3.2 Exercises\\unemployement
-rate-1948-2010.csv")
```

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```
#filter data for treemap
tmd <- filter(data1, year >= 1999 & category == "Alcoholic Beverages")
```

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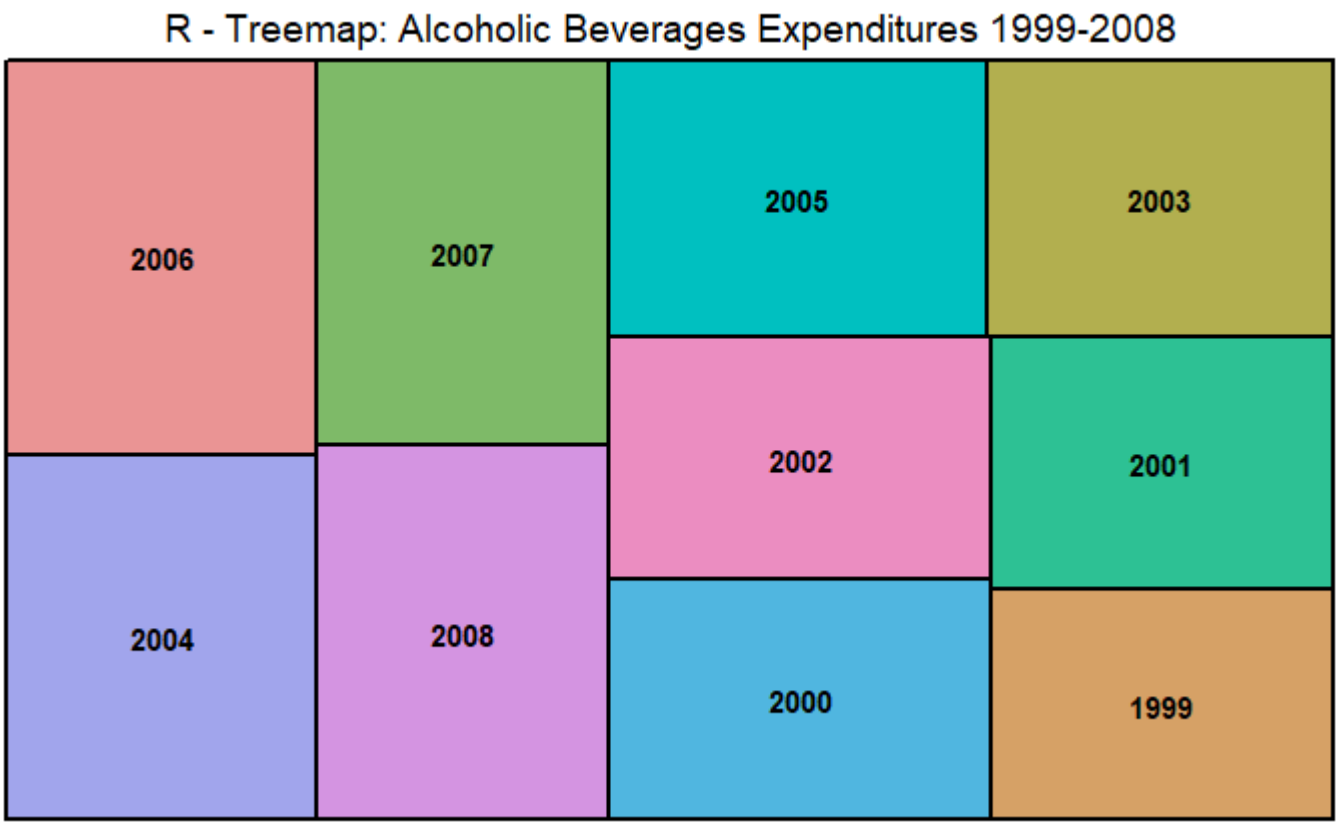
```
#create treemap
treemap(tmd,
        index="year",
        vSize="expenditure",
        type="index",
        title ='R - Treemap: Alcoholic Beverages Expenditures 1999-2008'
            )
```



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```
#filter data for treemap
tmd2 <- filter(data1, year == 2008)
```

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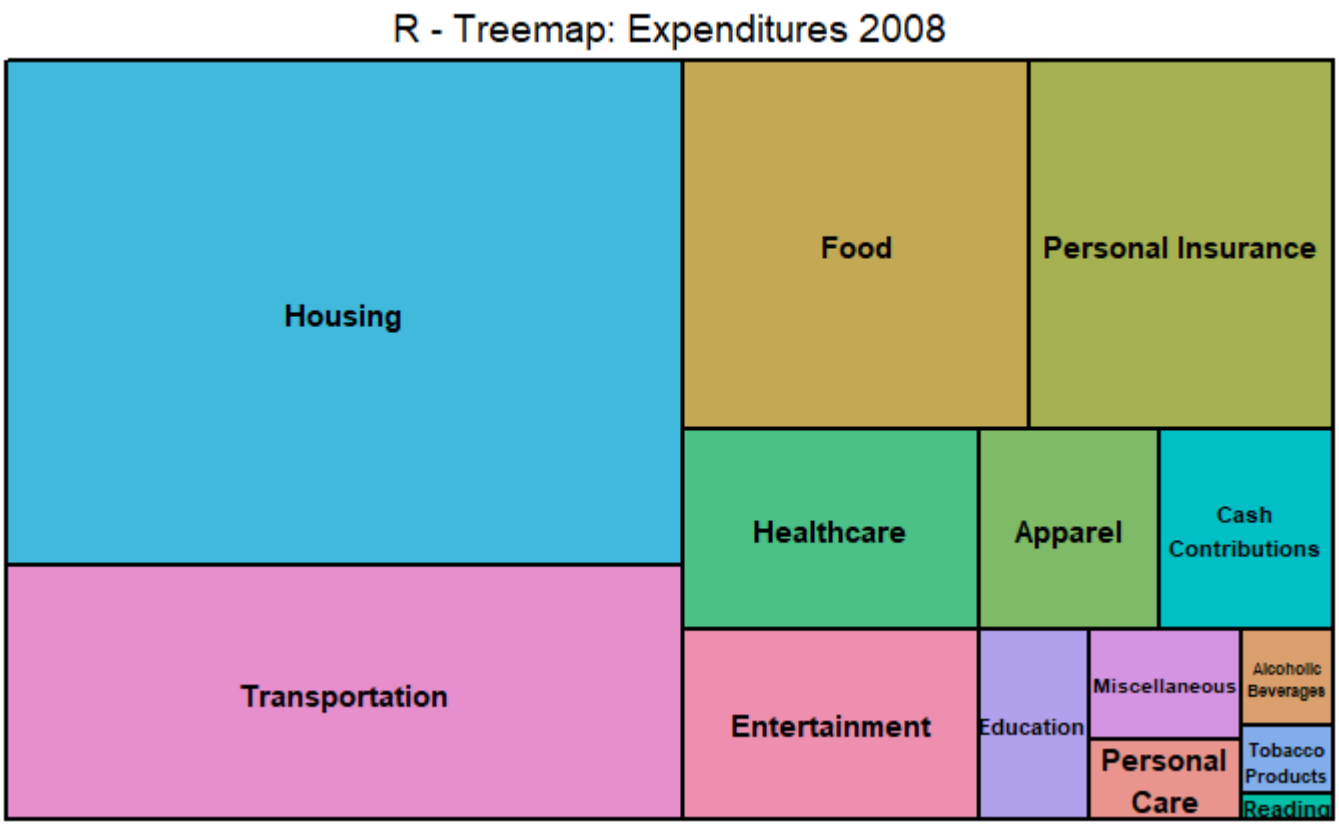
```
#create another treemap
treemap(tmd2,
        index="category",
        vSize="expenditure",
        type="index",
        title ='R - Treemap: Expenditures 2008'
            )
```



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```
#create new dataframe
areadata1 <- filter(data2, Year == 2001)
areadata8 <- filter(data2, Year == 2008)
newdf <- data.frame(areadata1$Period, areadata1$Value, areadata8$Value)
names(newdf) <- c("Period","Year01","Year08")
```

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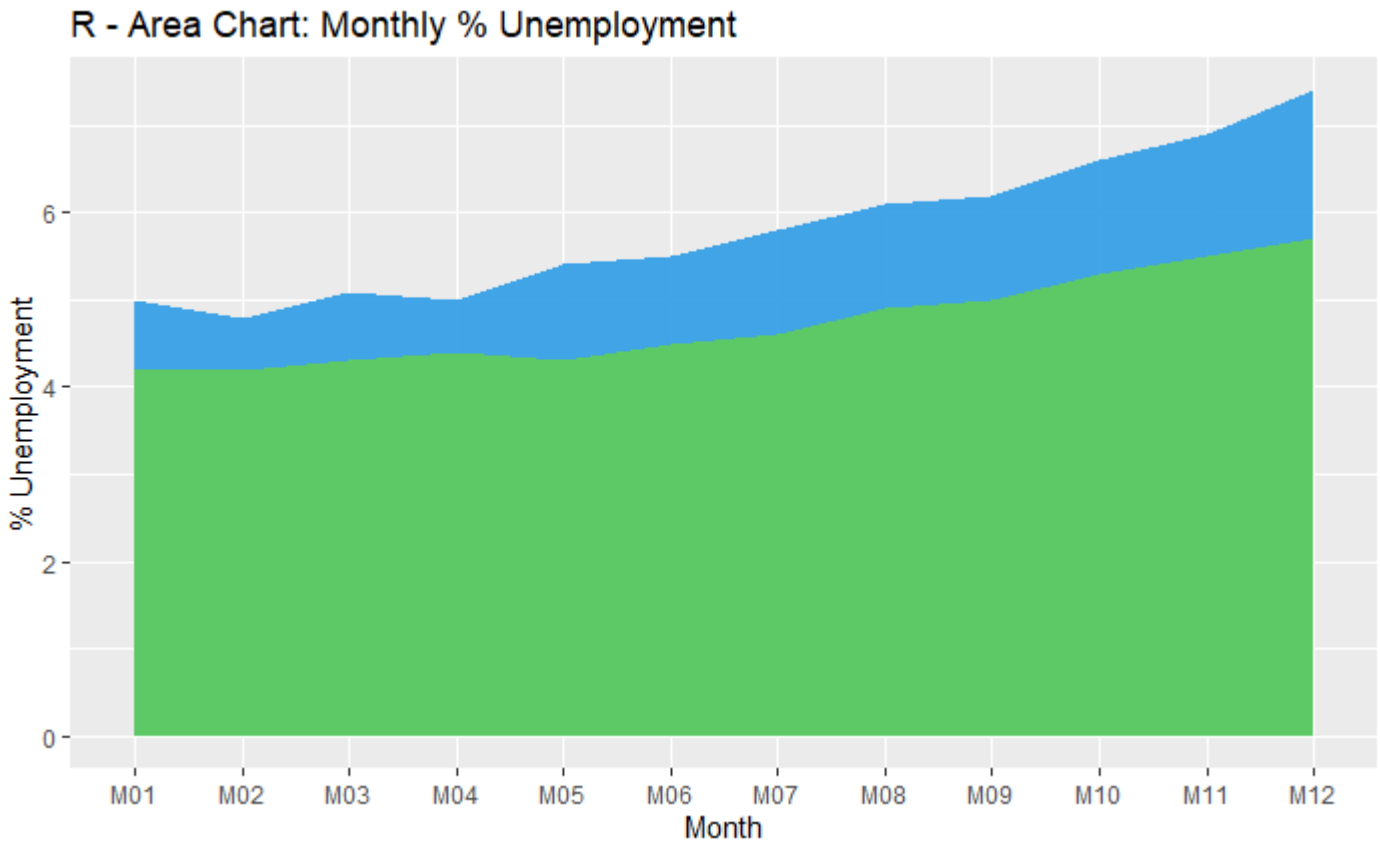
```
#Don't use
# Area chart
ggplot(newdf) +
  geom_area(aes(x = Period, y = Year08, group=1),fill = 4, alpha = 0.85)+
  geom_area(aes(x = Period, y = Year01, group=1),fill = 3, alpha = 0.85)+
  xlab("Month")+ylab("% Unemployment")+
  ggtitle("R - Area Chart: Monthly % Unemployment")
```



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```
#pivot the data for the stacked area chart
pivot_data1 = pivot_wider(data1, names_from = category, values_from = expenditure)
drops = c("sex")
pivot_data1 = pivot_data1[ , !(names(pivot_data1) %in% drops)]
pivot_data1 <- pivot_data1[order(pivot_data1$year),]
```

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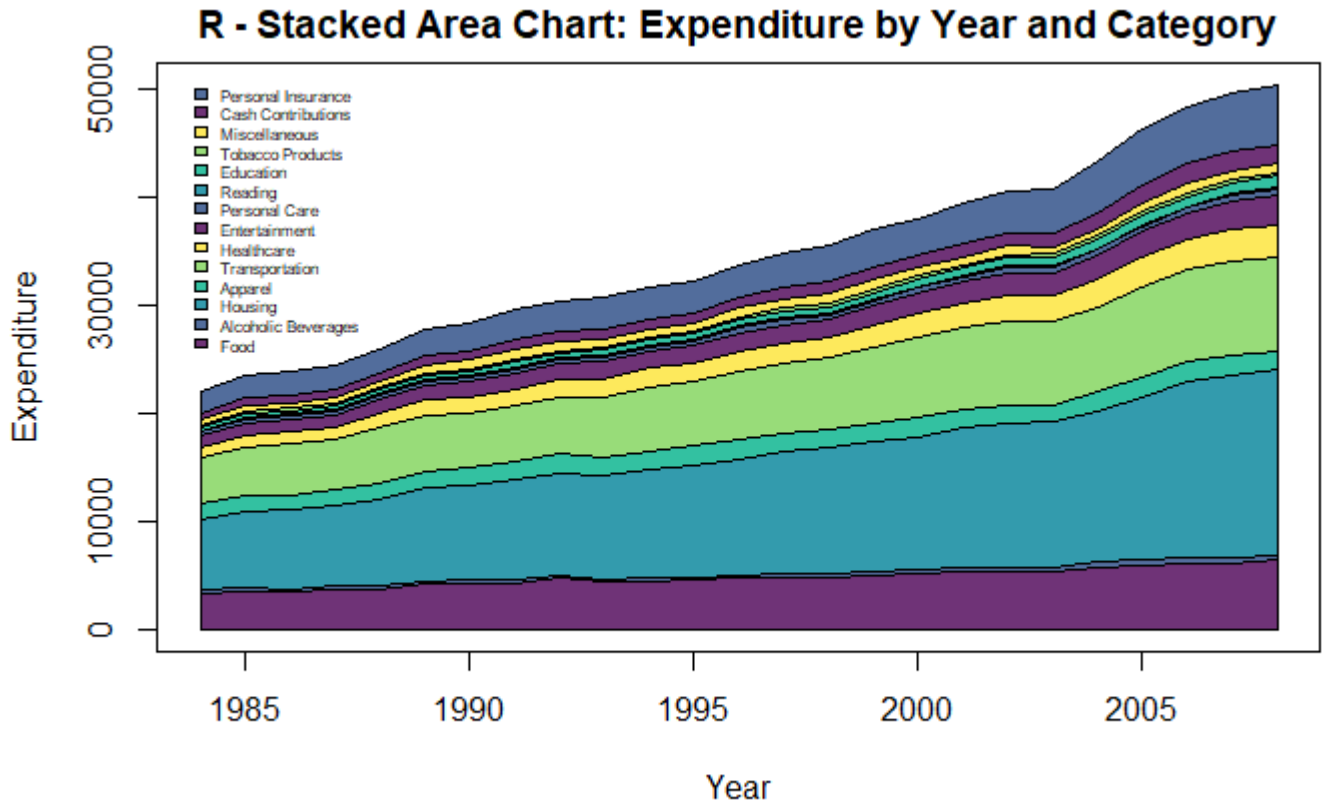
```
#https://r-charts.com/evolution/stacked-area/

cols <- hcl.colors(6, palette = "viridis", alpha = 0.8)

areaplot(.~year, data = pivot_data1,
         main = "R - Stacked Area Chart: Expenditure by Year and Category",
         xlab = "Year",
         ylab = "Expenditure",
         col=cols,
         legend = TRUE,
         args.legend = list(x="topleft",cex=0.5))
```



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```
NA
NA
```

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```
#adjust data
data2$Month = data2$Period #make new column
data2$Month <- gsub("[^0-9.-]", "", data2$Month)
data2$Month = as.numeric(as.character(data2$Month))
```

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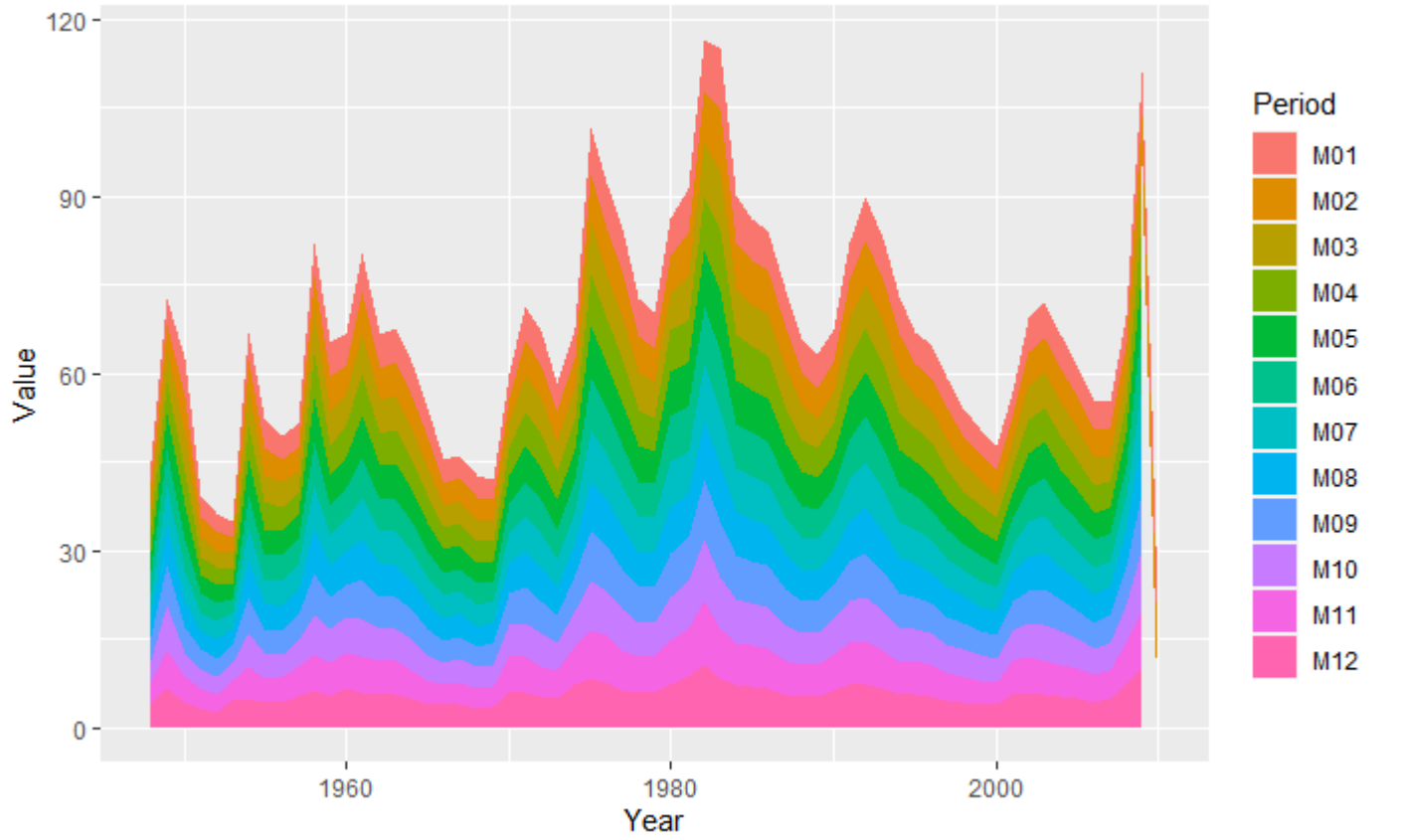
```
plot = ggplot(data2, aes(x=Year, y=Value, fill=Period))
plot + geom_area()
```



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```
#area data again....
data2$Year = as.character(data2$Year)
areadf <- subset(data2,(Year == 2001 | Year == 2008))
```

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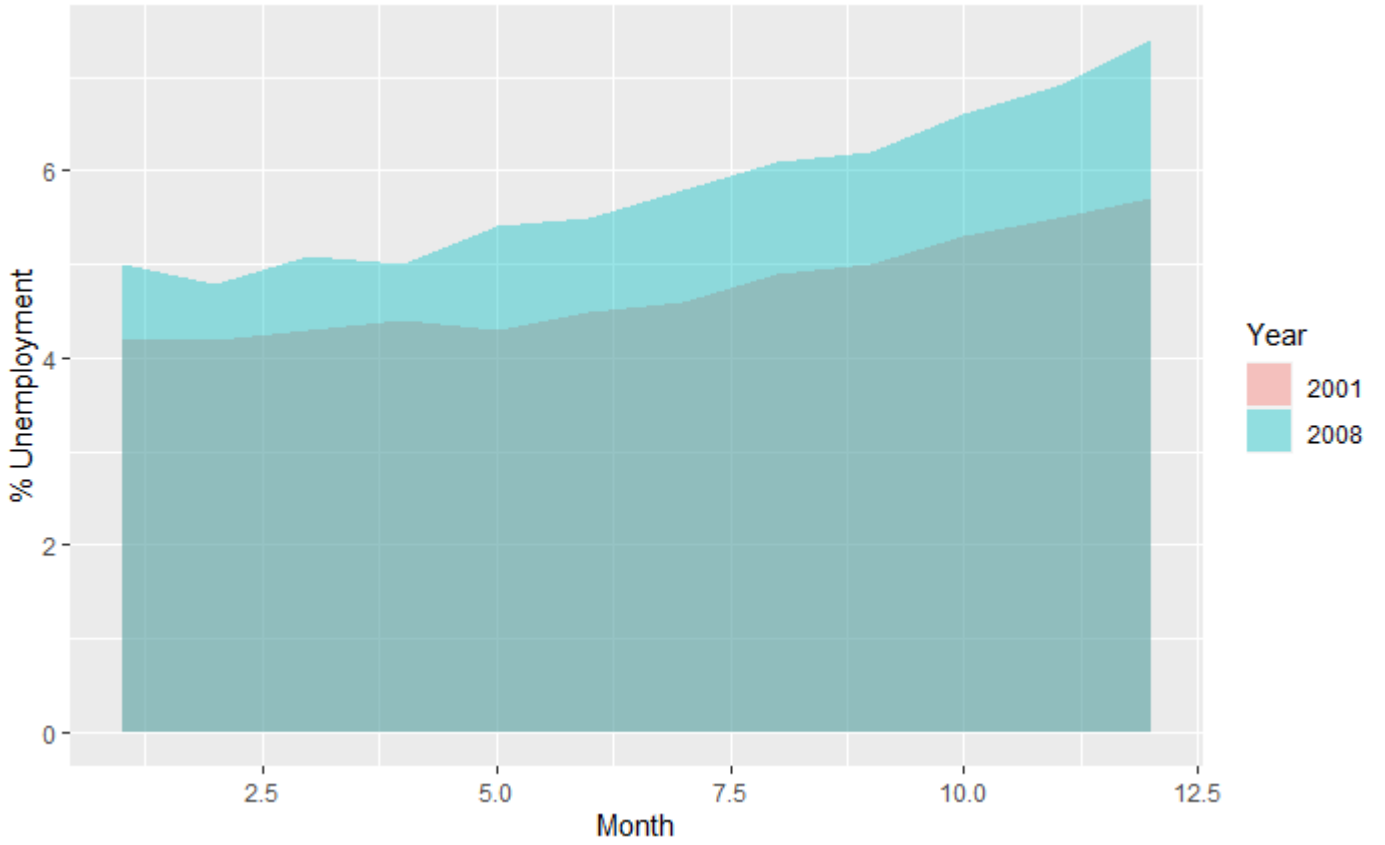
```
#Area plot retry
plot = ggplot(areadf, aes(x=Month, y=Value, fill=Year))
plot + geom_area(position = "identity",alpha=.4)+  xlab("Month")+ylab("% Unemployment")
```



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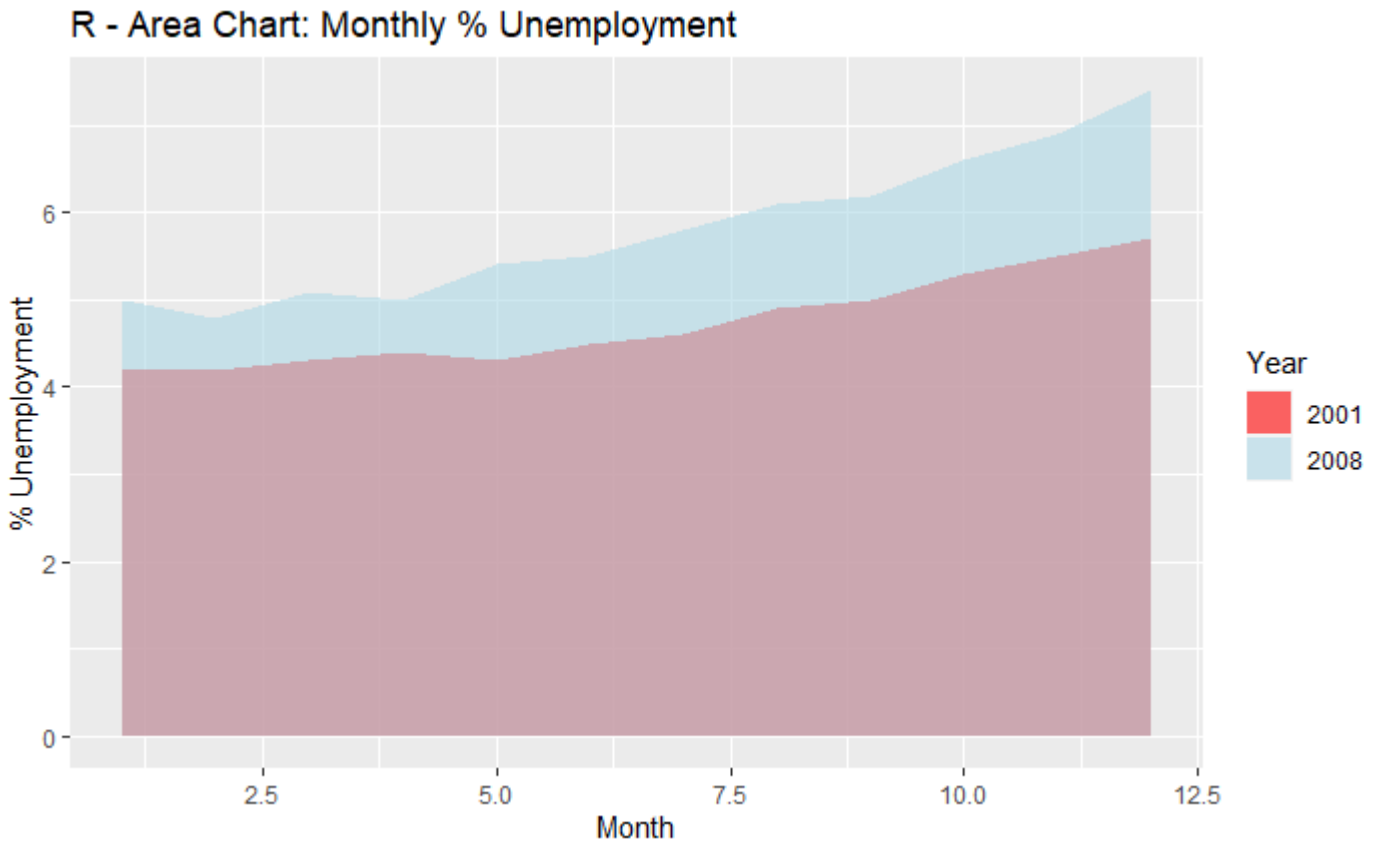
```
plot = ggplot(areadf, aes(x=Month, y=Value, fill=Year))
plot + geom_area(position = "identity",alpha=.6)+  xlab("Month")+ylab("% Unemployment")+
ggtitle("R - Area Chart: Monthly % Unemployment")+scale_fill_manual(values = c('red','lightblue'
)) #this helps prevent overlapping and discoloration
```


R - Area Chart: Monthly % Unemployment
% Unemployment
0
2
4
6
2.5
5.0
7.5
10.0
12.5
Month
Year
2001
2008