#载入需要的包

library(ggplot2)

library(dplyr)

library(plotly)

library(purrr)

library(quantmod)

library(treemapify)

library(ggpubr)

#绘制图像

## 绘制K线图

SSE\_Index <- read.csv("F:/R final project/SSE\_Index.csv")

trade\_date <- read.csv("F:/R final project/trade\_date.csv")

SSE\_Index <- head(SSE\_Index,30)

plot\_ly(x = SSE\_Index$trade\_date, type="candlestick",

open = SSE\_Index$open, close = SSE\_Index$close,

high = SSE\_Index$high, low = SSE\_Index$low) %>%

layout(title = "上证综指（30日）")

## 绘制工业指数柱形图

ind\_returns <- read.csv("F:/R final project/ind\_returns.csv")

to\_color <- function (x){

if (x > 0){

return(sprintf("rgb(%d,0,0)",floor(255\*(1-exp(-x\*100)))));

}

else {

return(sprintf("rgb(0,%d,0)",ceiling(255\*(1-exp(x\*100)))));

}

}

ind\_returns["color"] = map\_chr(ind\_returns$returns, to\_color)

row.names(ind\_returns)<- c("能源","材料","建筑","食品",

"医疗","金融","信科","电信","公用")

ind\_indices\_barchart <- plot\_ly(y = reorder(row.names(ind\_returns), ind\_returns$returns),

x = abs(ind\_returns$returns),

marker =list(color = ind\_returns$color),

type = 'bar',orientation = 'h') %>%

layout(title = "沪深300行业涨幅(日）")

ind\_indices\_barchart

## 绘制上证50成分股树状图

SSE50 <- read.csv("F:/R final project/SSE50.csv")

rgb2hex <- function(rgb){

rgb <- strsplit(substr(rgb,5,nchar(rgb)-1),',')[[1]]

rgb <- as.integer(rgb)

rgb <- as.character(as.hexmode(rgb))

hex <- "#"

for (i in rgb){

if (nchar(i) == 1){i <- paste0('0',i)}

hex <- paste0(hex, i)

}

return(hex)

}

SSE50["color"] = map\_chr(SSE50$returns, to\_color) %>% map\_chr(rgb2hex)

ggplot(SSE50, aes(area = mv, label = names)) +

geom\_treemap(fill = SSE50$color) +

geom\_treemap\_text(fontface = "bold", colour = "white", place = "centre",

grow = TRUE) +

ggtitle("上证50成分股涨跌情况")

## 绘制股票数据概览图

SSE50\_basics\_new <- read.csv("F:/R final project/SSE50\_basics\_new.csv")

tbody.style = tbody\_style(color = "black",

fill = c("#bdbdbd","#7d7d7d"), hjust=1, x=0.9)

SSE50\_basics\_new <- head(SSE50\_basics\_new,10) %>%

ggtexttable(theme = ttheme(

colnames.style = colnames\_style(color = "black", fill = "#7d7d7d"),

tbody.style = tbody.style

))

SSE50\_basics\_new

## 绘制个股图

ZGLT <- read.csv("F:/R final project/ZGLT.csv")

ZGLT\_return = ZGLT$close[nrow(ZGLT)]/ZGLT$pre\_close[nrow(ZGLT)] - 1

ZGLT\_name <- list(

xref = 'paper',

yref = 'paper',

x = 0.50,

y = 0.99,

xanchor = 'right',

yanchor = 'middle',

text = '中国联通\n',

font = list(family = '楷体',

size = 30,

color = '#efefef'),

showarrow = FALSE)

ZGLT\_price <- list(

xref = 'paper',

yref = 'paper',

x = 0.52,

y = 0.85,

xanchor = 'right',

yanchor = 'middle',

text = ~paste0(as.character(ZGLT$close[nrow(ZGLT)]),'(',round(ZGLT\_return\*100,2),'%',')'),

font = list(family = 'Times New Roman',

size = 26,

color = to\_color(ZGLT\_return)),

showarrow = FALSE)

ZGLT\_HL <- list(

xref = 'paper',

yref = 'paper',

x = 0.84,

y = 0.80,

xanchor = 'right',

yanchor = 'middle',

text = ~paste0("H ",ZGLT$high[nrow(ZGLT)],"\nL ",ZGLT$low[nrow(ZGLT)]),

font = list(family = 'Times New Roman',

size = 16,

color = '#cfcfcf'),

showarrow = FALSE)

ZGLT\_plot <- plot\_ly(ZGLT, y=~close,x=~paste0(substr(trade\_date,5,6),'-',substr(trade\_date,7,8)),

type = 'scatter', mode = 'lines',

line = list(color = '#adadad')) %>%

layout(paper\_bgcolor='black', plot\_bgcolor='black',

xaxis = list(title = ""),

yaxis = list(title = "", range=c(min(ZGLT$close),max(ZGLT$close)\*1.5 - 0.5\*min(ZGLT$close))),

margin =list(autoexpand = TRUE, r=10,l=10))%>%

layout(annotations = ZGLT\_name)%>%

layout(annotations = ZGLT\_price)%>%

layout(annotations = ZGLT\_HL)

ZGLT\_plot