Lab1Part2

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0.1 DIC Lab1 Part 2

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```
In [124]: #Graph 1 - Barplot

          #install.packages("reshape2")
          #https://stackoverflow.com/questions/9531904/plot-multiple-columns-on-the-same-graph

          rm(list = ls())
          library(ggplot2)
          library(reshape2)
          data <-read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive Computing/La
          temp = c("Week","Percent.Positive.A","Percent.Positive.B","Total...Tested", "X..Posi
          data <- melt(data, id.vars=temp)

          colors <- c("yellow", "green")
          labels <- c("A","B")
          plot <- ggplot(data,aes(x =factor(Week), y = value, fill =  variable,width=0.8)) + g

          #To draw lines
          plot <- plot+geom_line(aes(x =as.numeric(factor(data$Week)),y=data$X..Positive*680))
          plot <- plot + scale_y_continuous(sec.axis = sec_axis(~./1000, name = "Percent Posi

          plot <- plot #+ scale_colour_manual(values = c("yellow", "green"))
            plot <- plot + labs(y = "Number of Positive Specimens",
                      x = "Week", legend=c("Percent Positive", "Positive FLu A", "Positive
            #plot <- plot + theme(legend.position = c(0.8, 0.9))

          plot + theme(axis.text.x = element_text(angle = 45, hjust = 1))
```
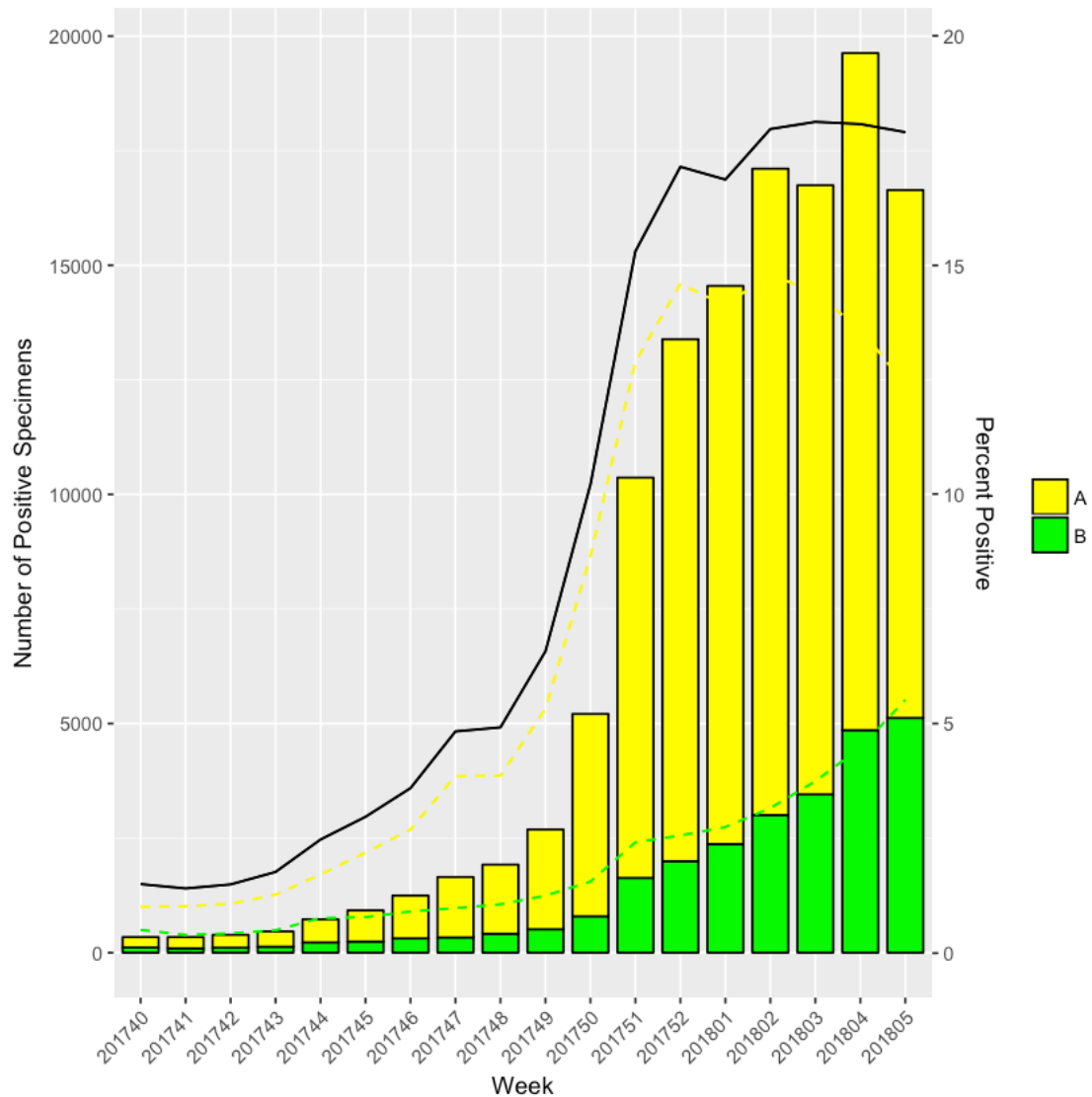
In [122]: *#Graph 2 - Pie Chart*

```
#https://www.cdc.gov/flu/weekly/
#https://www.tutorialgateway.org/pie-chart-in-r-programming/
#install.packages("ggrepel")
library(ggrepel)
rm(list=ls())

data_test <-read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive Comput

par(mfrow=c(2,2))
```

2

```
data_another_pie <- read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive

data_another_pie <- data_another_pie[,-10]
data_another_pie <- data_another_pie[,-9]
data_another_pie <- data_another_pie[,-5]
data_another_pie <- melt(data_another_pie, id.vars="Week")
data_to_plot <- aggregate(data_another_pie$value , by=list(Category=data_another_pie$

labels = c(1,2,3,4,5,6)
bp<- ggplot(data_to_plot, aes(x="", y=data_to_plot$x, fill=data_to_plot$Category)) +
  geom_bar(width = 1, stat = "identity")
pie <- bp + coord_polar("y", start=30) + scale_fill_manual(name = " ",values = c("yel
pie <- pie + labs(title = "Influenza Positive Specimens Reported by U.S. Public Healt
Cumulative, 2017-2018 Season")
pie


par(mfrow=c(2,2))
df <- data.frame(data_test)
g1 <- df[data_test$X.Sub.type == "H3",]
l1 = c("3C.2a1 104 16%","3C.3a 10 1%", "3C.2a 554 83%")
cols <- colorRampPalette(c("red", "rosybrown1"))(3)
pie(g1$Number,labels = l1,col = cols, , init.angle = 90 + 60, main = "Influenza A(H3

g2 <- df[data_test$X.Sub.type == "B/Victoria",]
l2 = c("V1A 28 55%", "V1A-2Del 23 45%")
c2 = c("darkolivegreen3", "white")
d2 = c(0,30)
pie(g2$Number,labels = l2,col = c2, init.angle = 270,  main = "Influenza B Victoria"

g3 <- df[data_test$X.Sub.type == "H1pdm09",]
l3 = c("6B.1 253 100%")
c3 = c("sandybrown")
pie(g3$Number,labels = l3,col = c3, init.angle = 90, main = "Influenza A(H1N1)pdm09"


g4 <- df[data_test$X.Sub.type == "B/Yamagata",]
l4 = c("Y3 402 100%")
c4 = c("lightgreen")
pie(g4$Number,labels = l4,col = c4, init.angle = 90 , main = "Influenza B Yamagata")
```
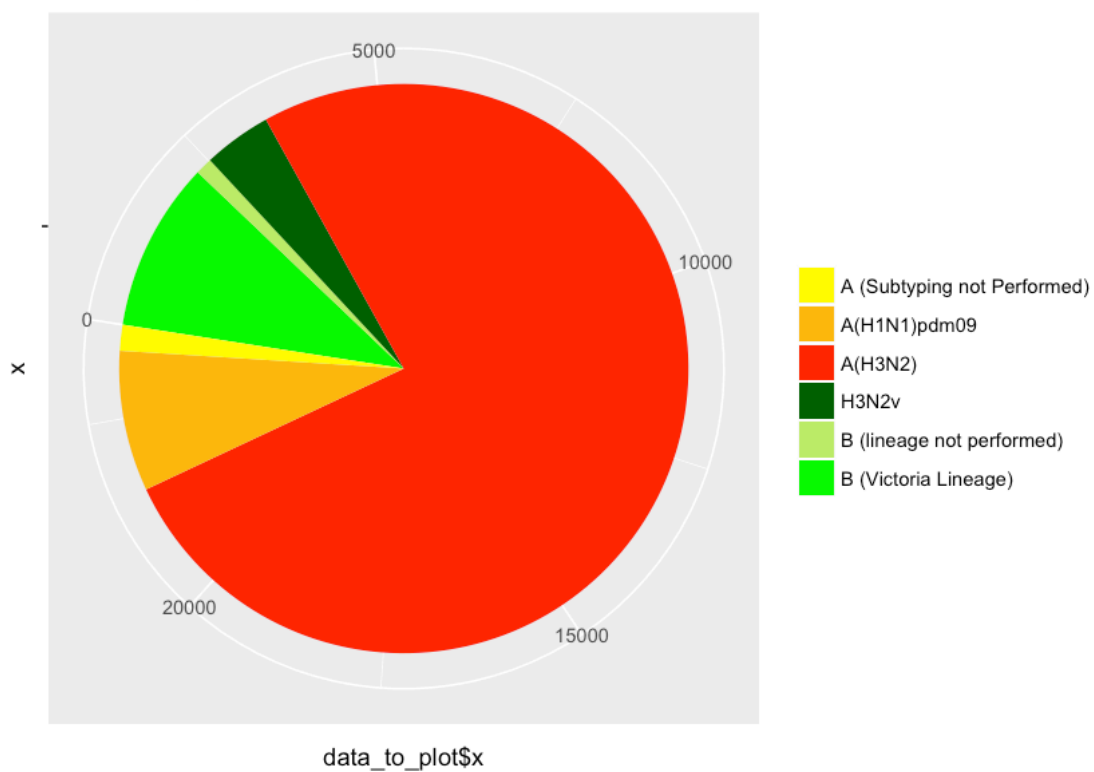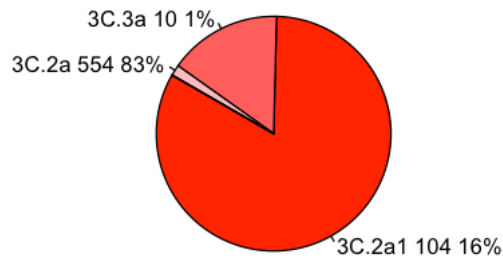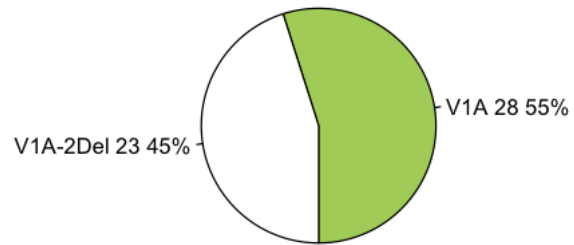
Influenza Positive Specimens Reported by U.S. Public Health Laboratories, Cumulative, 2017-2018 Season
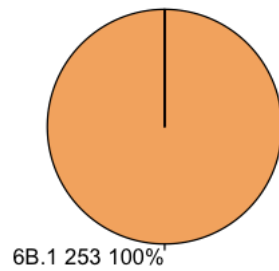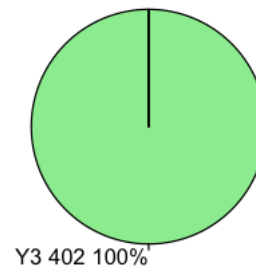

data_to_plot$x

Influenza A(H3N2)

3C.3a 10 1%,
3C.2a 554 83%
3C.2a1 104 16%

Influenza B Victoria

V1A 28 55%
V1A-2Del 23 45%

Influenza A(H1N1)pdm09

6B.1 253 100%

Influenza B Yamagata

Y3 402 100%

```
In [57]: rm(list=ls())
         library(ggplot2)
         #install.packages("ggthemes")
         library(ggthemes)
         #install.packages("extrafont")
         library(extrafont)
         #install.packages("plyr")
         library(plyr)
         #install.packages("scales")
         #library(scales)
         library(reshape2)
         data_test <-read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive Computi
```

```
data_test <- data_test[,-10]
data_test <- data_test[,-9]
data_test <- melt(data_test, id.vars="Week")
p4 <- ggplot() + geom_bar(aes(y = data_test$value, x = factor(data_test$Week), fill =
                          stat="identity") +theme(axis.text.x = element_text(angle = 4
p4 <- p4 +  scale_fill_manual(name = '', guide = 'legend',labels = c('A (Subtyping not

p4
```
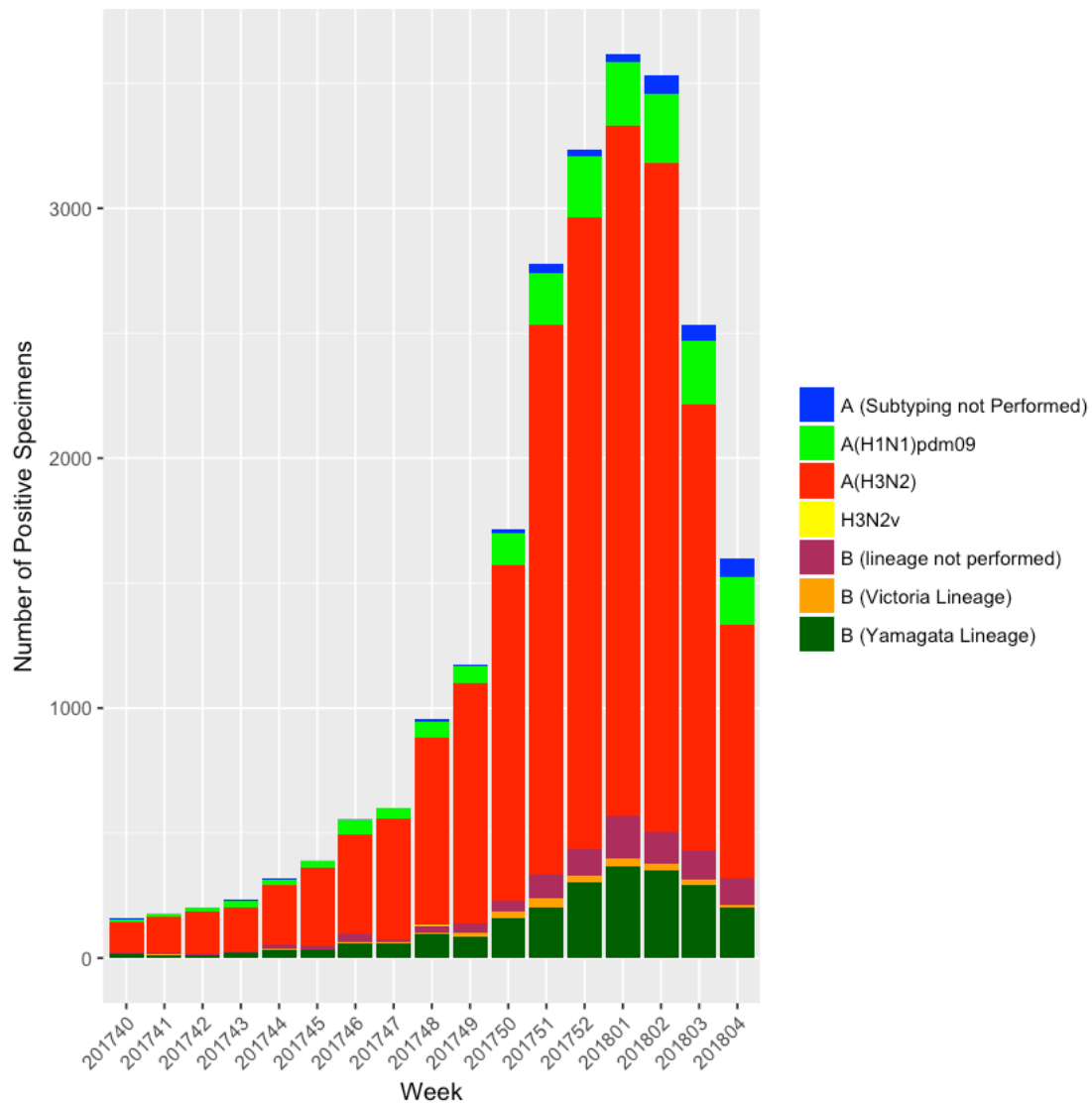


```
In [53]: rm(list=ls())
         #install.packages("reshape")
         library(reshape)
         library(ggplot2)
```
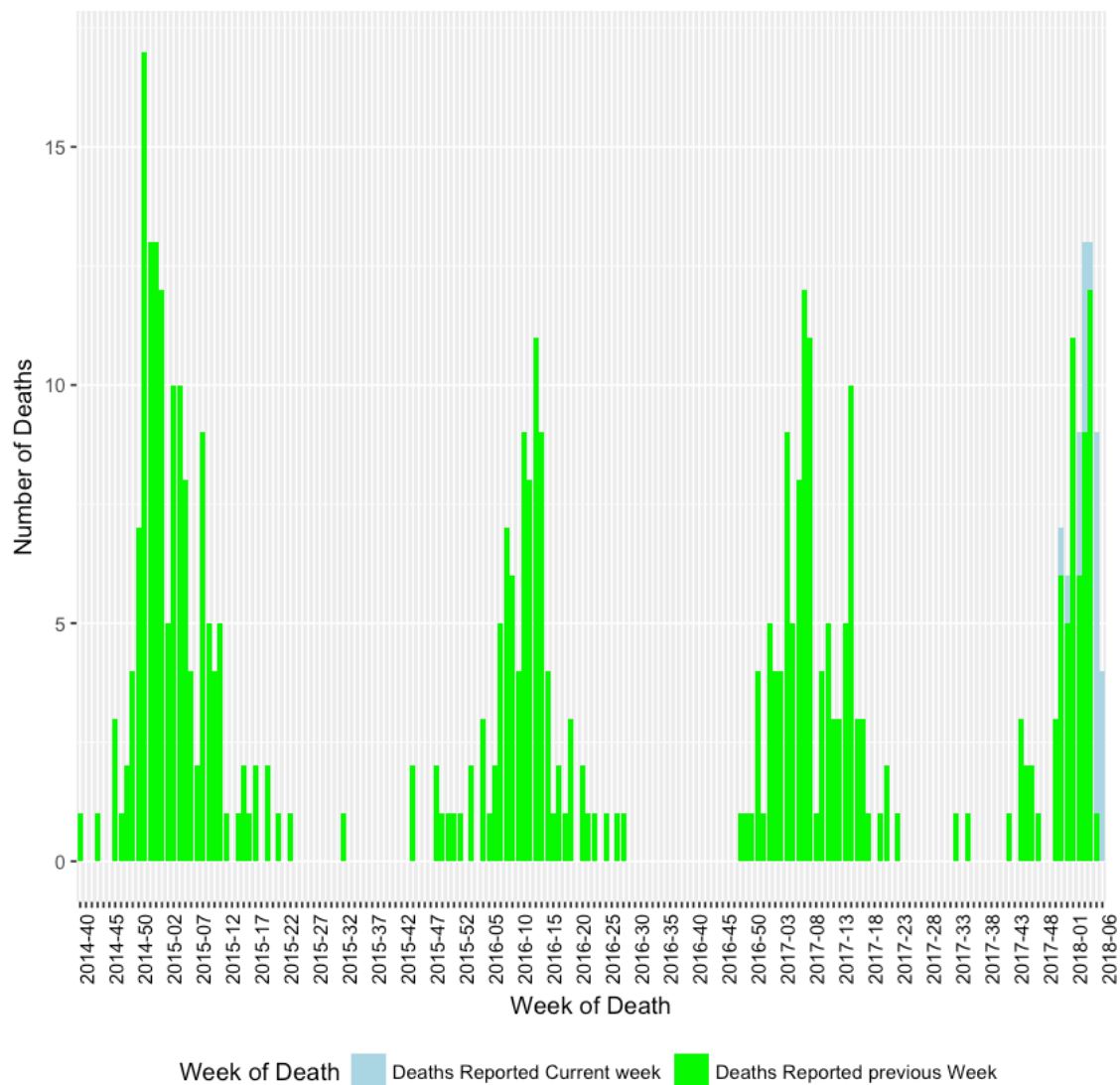
```
data_to_plot <-read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive Compu
data_to_plot <- data_to_plot[,-1]
data_to_plot <- melt(data_to_plot, id.vars="WEEK.NUMBER")


plot <- ggplot() + geom_bar(aes(y = data_to_plot$value, x = factor(data_to_plot$WEEK.
stat="identity") +theme(axis.text.x=element_text(color=c("black","transparent","transp

plot
```

```r
rm(list=ls())
library(ggplot2)
#install.packages("maps")
library(maps)
library(ggmap)

data_map <-read.csv(file = "/Users/priyamurthy/Documents/Sem2/Data Intensive Computi

data_map$STATENAME = tolower(data_map$STATENAME)

colnames(data_map)[colnames(data_map)=="STATENAME"] <- "region"

data_map$ACTIVITY.LEVEL <- gsub("Level*", "\\1", data_map$ACTIVITY.LEVEL)
states <- map_data("state")

map.df <- merge(data_map,states, by="region", all.x=T)



p <- ggplot()
p <- p + geom_polygon( data=map.df, aes(x=long, y=lat, group = group, fill= map.df$AC
    labs(fill = "ILI Activity Level", title = "2017-18 Influenza Season Week 4 ending

p
```

2017-18 Influenza Season Week 4 ending Feb 27, 2018