Data Visualization

Assignment 1

Background:

The data sets for analysis is the insurance sector data in which premiums and claims information is provided for each policy holder for all the regions and zones.

QUESTIONS-

1. Import Premium and Claim data and merge both data sets into one data.
2. For each zone, obtain the mean Premium and plot a bar chart showing the mean Premium over zone. (Use any color from a palette from RColorBrewer)
3. Obtain a stacked bar chart for all the Zones over Sub plans by the Premium amount.
4. Obtain a heat map of Plan and Zone with respective average Premium.
5. Obtain a pie chart using ggplot2 for Premium amount across different sub plans. (Use any palette from RColorBrewer)

Data Visualization

Assignment Solution Sample 1

```
#Q1. Import Premium and Claim data and merge both data sets into one data
##A.
premium<-read.csv(file.choose(),header=TRUE)
claim<-read.csv(file.choose(),header=TRUE)
master<-merge(premium,claim,by="POLICY_NO")


#Q2. For each zone, obtain mean Premium and plot a bar chart showing mean
Premium over zone. (Use any color from a palette from RColorBrewer)
##A.
meanpremium<-aggregate(Premium~ZONE_NAME,data=premium,FUN =mean)
meanpremium

library(RColorBrewer)

barplot(meanpremium$Premium, main= "SIMPLE BAR CHART (Total Premium -
Zone)", names.arg = meanpremium$ZONE_NAME,
```

```
      xlab = "ZONE", ylab="AVERAGE PREMIUM", col = "#1B9E77")


#Q3. Obtain stacked bar chart for all Zones over Sub plans by Premium amount
##A.
amount<-table(premium$ZONE_NAME,premium$Sub_Plan)
amount
barplot(amount,main="STACKED BAR CHART",xlab = "Sub_Plan",ylab ="No of
policies",col=c("green","orange","cadetblue"),legend=rownames(amount))


#Q4. Obtain heat map of Plan and Zone with respective average Premium
##A.
install.packages("plotly")
library(plotly)
premium$Plan<-factor(premium$Plan)
premium$ZONE_NAME<-factor(premium$ZONE_NAME)
agg<-aggregate(Premium~Plan+ZONE_NAME,data = premium,FUN=mean)

plot_ly(agg,x=agg$Plan,y=agg$ZONE_NAME,z=agg$Premium,
type="heatmap",connectgaps=FALSE,showscale=T)


#Q5. Obtain pie chart using ggplot2 for Premium amount across different sub plans.
(Use any palette from RColorBrewer)
##A.
library(RColorBrewer)
agg<-aggregate(Premium~Sub_Plan,data = premium,FUN=sum)

ggplot(agg, aes(x ="",y=Premium, fill=Sub_Plan))+ geom_bar(stat =
"identity",width=1)+
  coord_polar(theta="y", start=pi/3)+labs(title="Pie
chart",fill="Sub_Plan")+scale_fill_brewer(palette = "Set1")
```