

2011.R

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```
library(ggplot2)
library(ggthemes)
library(pdftools)
library(cowplot)

df <- read.csv("D:\\Programming\\DA\\Lab 2\\2011\\2011.csv", header = T)

summary(df)

##      Sr..No      District Birth.Registered Birth.Rate
## Min.   : 1.00  BAGALKOTE   : 1 Min.   : 4716 Min.   :12.80
## 1st Qu.: 8.25  BANGALORE (R): 1 1st Qu.: 15012 1st Qu.:16.52
## Median :15.50  BANGALORE (U): 1 Median : 18612 Median :17.93
## Mean   :15.50  BELGAUM      : 1 Mean   : 25606 Mean   :18.42
## 3rd Qu.:22.75  BELLARY      : 1 3rd Qu.: 29383 3rd Qu.:20.57
## Max.   :30.00  BIDAR        : 1 Max.   :141434 Max.   :24.59
##              (Other)      :24
## Death.Regesterd Death.Rate Registered.Infant.Death
## Min.   : 884 Min.   :3.980 Min.   : 9.00
## 1st Qu.: 2161 1st Qu.:5.665 1st Qu.: 87.25
## Median : 3639 Median :6.300 Median : 135.00
## Mean   : 5753 Mean   :6.201 Mean   : 273.27
## 3rd Qu.: 5564 3rd Qu.:6.740 3rd Qu.: 360.75
## Max.   :48611 Max.   :8.370 Max.   :1216.00
##
## Still.Birth.Registered Still.Birth.Rate
## Min.   : 4.0 Min.   : 0.000
## 1st Qu.: 26.0 1st Qu.: 1.323
## Median :217.0 Median : 4.265
## Mean   :217.8 Mean   : 5.062
## 3rd Qu.:327.0 3rd Qu.: 8.918
## Max.   :868.0 Max.   :13.370
## NA's :1

var(df$Birth.Registered)

## [1] 609322101

sd(df$Birth.Registered)

## [1] 24684.45

head(df)
```

```
## Sr..No      District Birth.Registered Birth.Rate Death.Regesterd
## 1      1      BAGALKOTE          35199      18.74          5119
## 2      2 BANGALORE (R)           7479      12.80          1722
## 3      3 BANGALORE (U)        141434      14.28        48611
## 4      4      BELGAUM          54881      14.99        10951
## 5      5      BELLARY          28309      21.87          6728
## 6      6      BIDAR           24793      19.08          2370
## Death.Rate Registered.Infant.Death Still.Birth.Registered
## 1      6.06              234              426
## 2      5.66              27              4
## 3      4.88            1216            264
## 4      6.80              516            868
## 5      6.00              372            335
## 6      3.98              188            343
## Still.Birth.Rate
## 1      10.35
## 2      0.29
## 3      2.00
## 4      13.37
## 5      6.85
## 6      4.18
```

`tail(df)`

```
## Sr..No      District Birth.Registered Birth.Rate Death.Regesterd
## 25      25      RAMANAGAR          9712      22.55          1885
## 26      26      SHIMOGA          29433      16.48          5713
## 27      27      TUMKUR          29496      19.57          4428
## 28      28      UDUPI          16463      17.51          3770
## 29      29 UTTARA KANNADA          22150      17.69          3096
## 30      30      YADGIR           4716      17.37          1074
## Death.Rate Registered.Infant.Death Still.Birth.Registered
## 25      6.25              9              6
## 26      6.97            327            329
## 27      6.60            110            32
## 28      5.12            125            136
## 29      6.35            101            173
## 30      5.20             19             NA
## Still.Birth.Rate
## 25      0.00
## 26      6.89
## 27      1.14
## 28      0.67
## 29      7.00
## 30      0.78
```

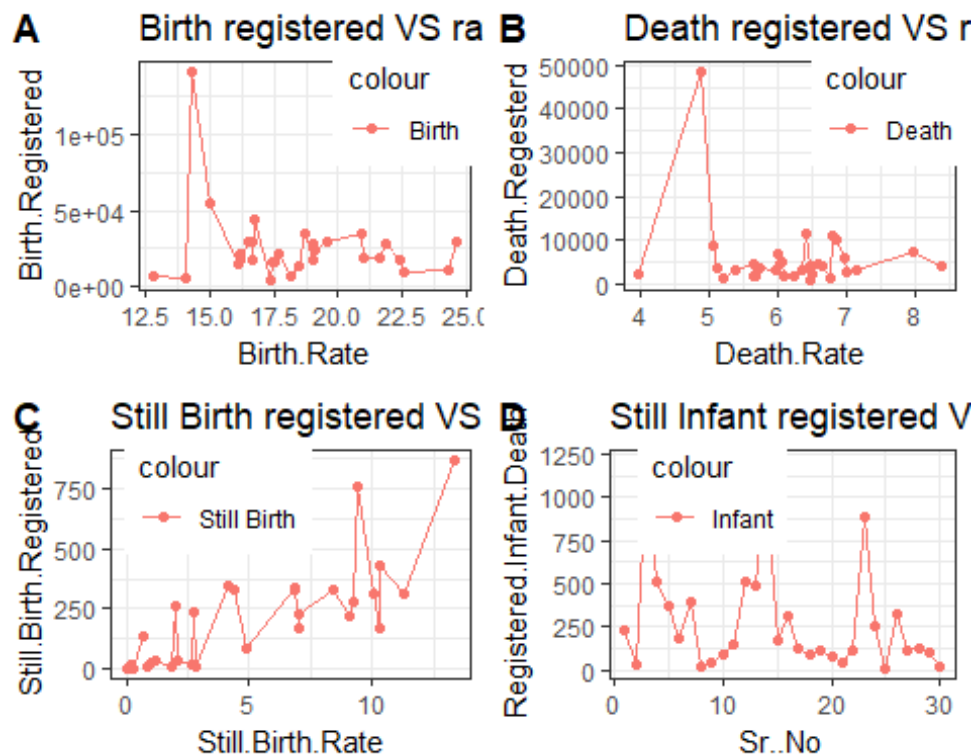
```
a <- ggplot(df, aes(Birth.Rate, Birth.Registered, colour = "Birth"))+
  geom_point()+ ggtitle("Birth registered VS rate")+theme_bw()+
  theme(legend.position = c(0.8, 0.8))+geom_line()
b <- ggplot(df, aes(Death.Rate, Death.Regesterd, colour = "Death"))+
```

```

geom_point()+ ggtitle("Death registered VS rate")+theme_bw()+
theme(legend.position = c(0.8, 0.8))+geom_line()
c <- ggplot(df, aes(Still.Birth.Rate, Still.Birth.Registered, colour = "Still
Birth")) +
geom_point()+ ggtitle("Still Birth registered VS rate")+theme_bw()+
theme(legend.position = c(0.3, 0.8))+geom_line()
d <- ggplot(df, aes(Sr..No, Registered.Infant.Death, colour = "Infant"))+
geom_point()+ ggtitle("Still Infant registered VS rate") + theme_bw()+
theme(legend.position = c(0.3, 0.8))+geom_line()

plot_grid(a, b,c,d, labels = "AUTO")

```

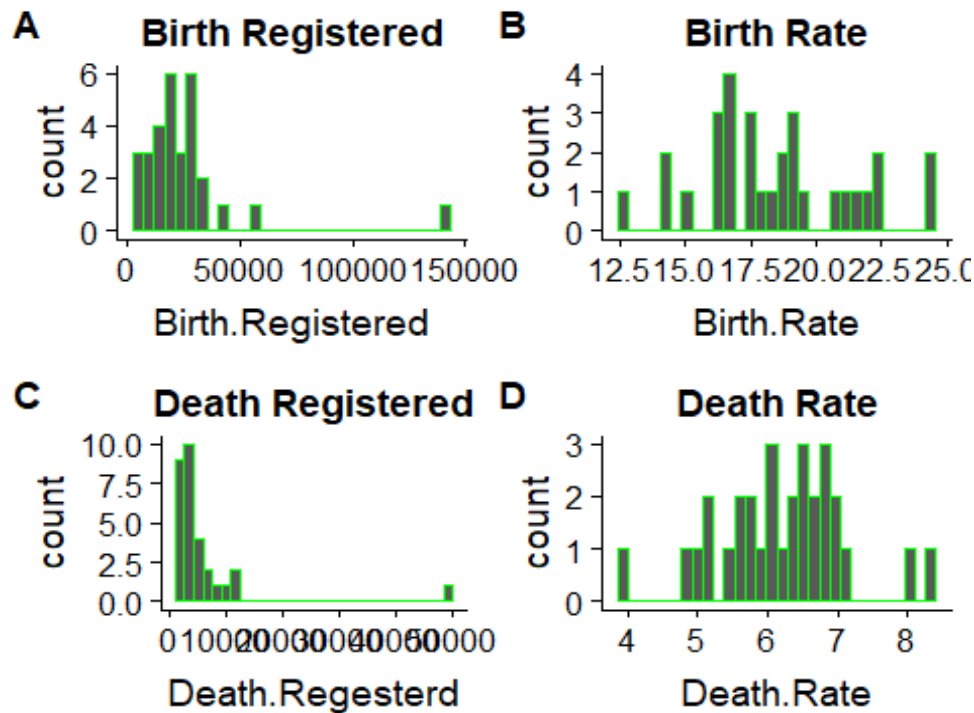


```

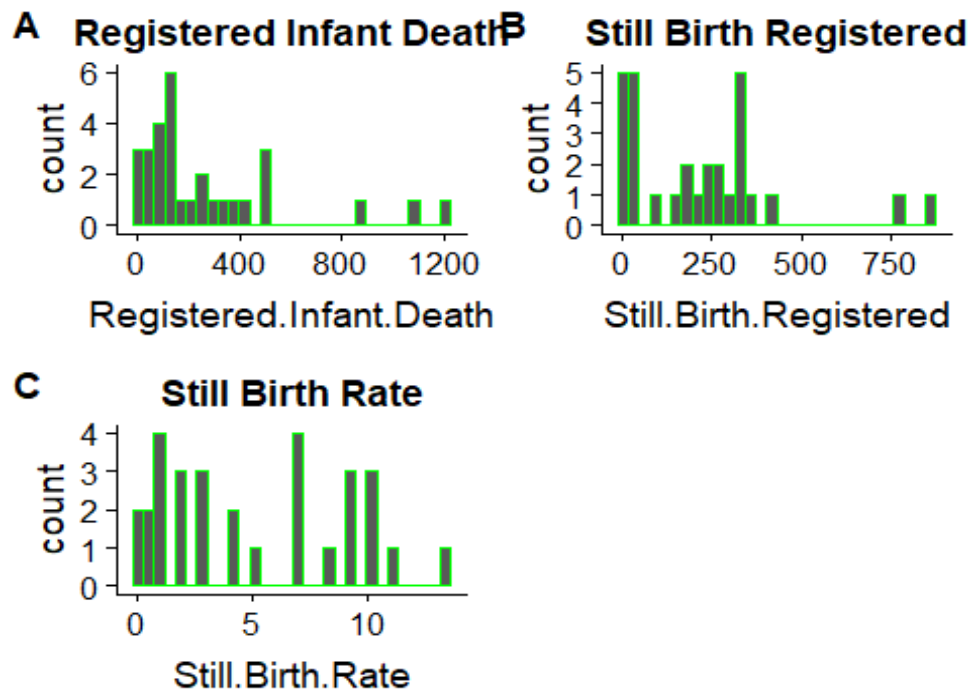
p <- ggplot(df, aes(Birth.Registered)) + geom_histogram(colour="green") +
ggtitle("Birth Registered")
q <- ggplot(df, aes(Birth.Rate)) + geom_histogram(colour="green") +
ggtitle("Birth Rate")
r <- ggplot(df, aes(Death.Regesterd)) + geom_histogram(colour="green") +
ggtitle("Death Registered")
s <- ggplot(df, aes(Death.Rate)) + geom_histogram(colour="green") +
ggtitle("Death Rate")
t <- ggplot(df, aes(Registered.Infant.Death)) + geom_histogram(colour="green"
)+
ggtitle("Registered Infant Death")
u <- ggplot(df, aes(Still.Birth.Registered)) + geom_histogram(colour="green")
+
ggtitle("Still Birth Registered")
v <- ggplot(df, aes(Still.Birth.Rate)) +

```

```
geom_histogram(colour="green") + ggtitle("Still Birth Rate")
plot_grid(p,q,r,s, labels = "AUTO")
```



```
plot_grid(t,u,v, labels = "AUTO")
```

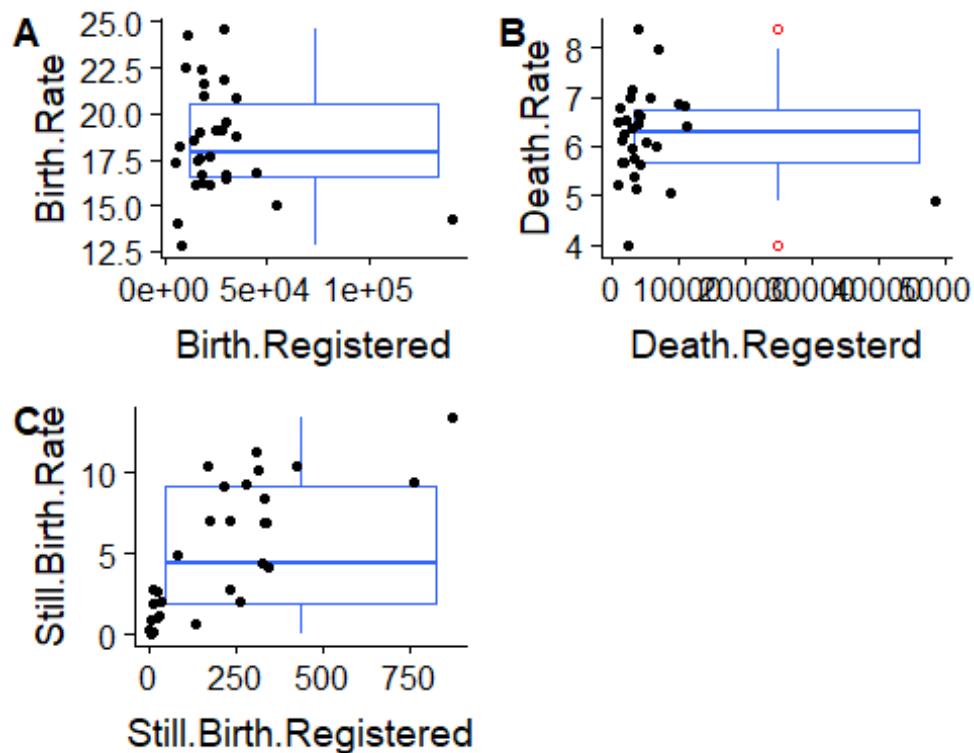


```

g <- ggplot(df, aes(Birth.Registered, Birth.Rate)) +
  geom_boxplot(fill = "white", colour = "#3366FF", outlier.colour = "red",
    outlier.shape = 1)+ geom_jitter(width = 0.2)
y <- ggplot(df, aes(Death.Regesterd, Death.Rate)) +
  geom_boxplot(fill = "white", colour = "#3366FF", outlier.colour = "red",
    outlier.shape = 1)+geom_jitter(width = 0.2)
z <- ggplot(df, aes(Still.Birth.Registered, Still.Birth.Rate)) +
  geom_boxplot(fill = "white", colour = "#3366FF", outlier.colour = "red",
    outlier.shape = 1)+geom_jitter(width = 0.2)

plot_grid(g,y,z, labels = "AUTO")

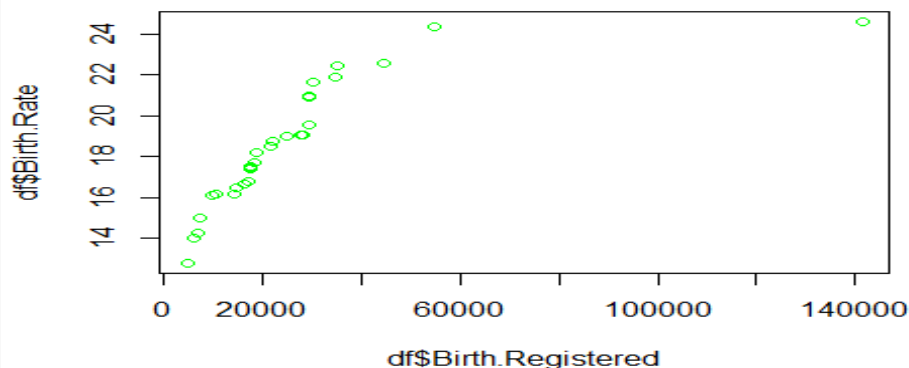
```



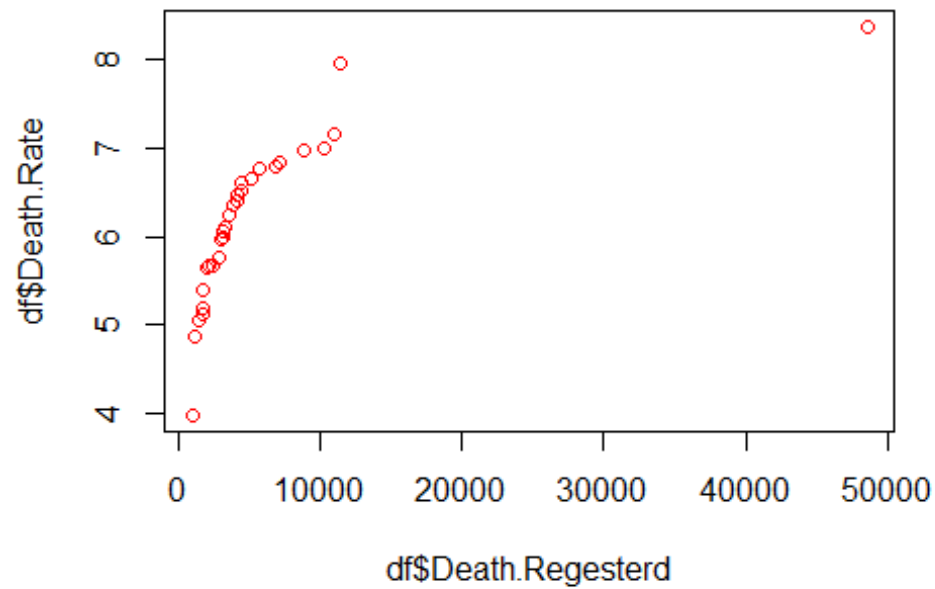
```

aa <- qqplot(df$Birth.Registered, df$Birth.Rate, col = "green")

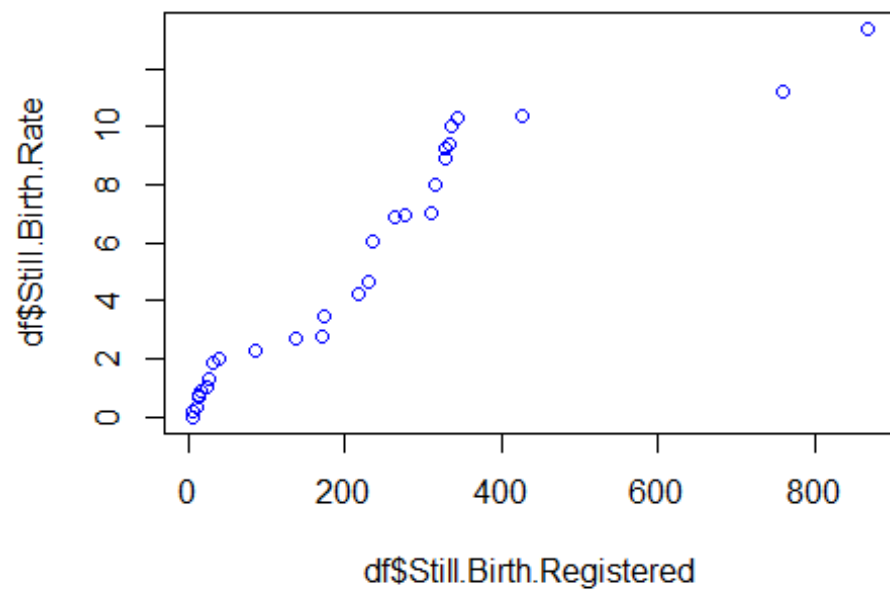
```



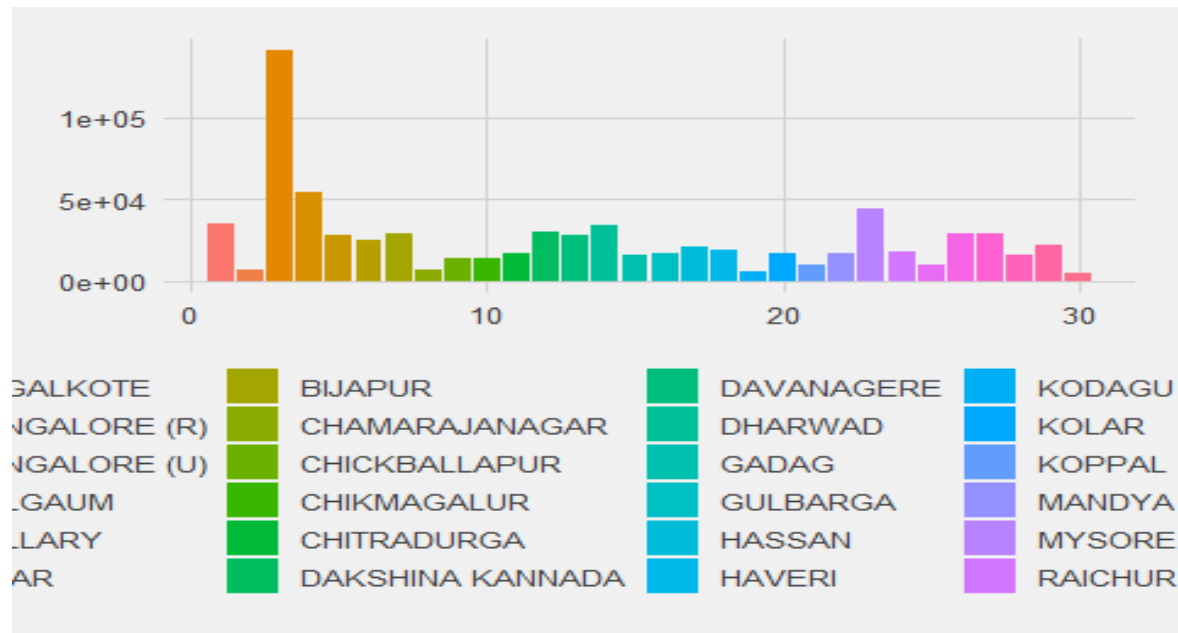
```
bb <- qqplot(df$Death.Regesterd,df$Death.Rate, col = "red")
```



```
cc <- qqplot(df$Still.Birth.Registered, df$Still.Birth.Rate, col = "blue")
```



```
ggplot(df) + theme_fivethirtyeight(base_size = 12, base_family = "sans") +
  scale_shape_manual(values=1:nlevels(df$sn)) +
  geom_bar(aes(y = Birth.Registered, x = Sr..No, fill = District),
    stat = "identity", position = "dodge")
```



```
ggplot(df, aes(District ,Birth.Registered)) +
  theme(axis.text.x = element_text( angle = 45, hjust = 1))+
  geom_point(colour="black", size = 3.75) +
  geom_point(colour="blue", size = 2.5)
```

