R Script

Assignment 4.2: Scatterplots, Bubble Charts, DensityMaps/Plots

DSC640

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In [15]:
```
library(ggplot2)
library(readxl)
library(scales)
library(plyr)
library(dplyr)
library(ggrepel)
library(RColorBrewer)
```

In [3]:
```
demographics <- read.csv("sample.csv")
head(demographics)
```

X	country	year	expectancy	birthrates	Country.Code	gdp	Region
0	Afghanistan	2008	42	46.538	AFG	364.6635	South Asia
1	Albania	2008	73	14.649	ALB	4370.5399	Europe & Central Asia
2	Algeria	2008	71	20.759	DZA	4923.6316	Middle East & North Africa
3	Angola	2008	46	42.875	AGO	4080.9410	Sub-Saharan Africa
5	Argentina	2008	76	17.269	ARG	9020.8733	Latin America & Caribbean
6	Armenia	2008	70	15.299	ARM	4010.8614	Europe & Central Asia

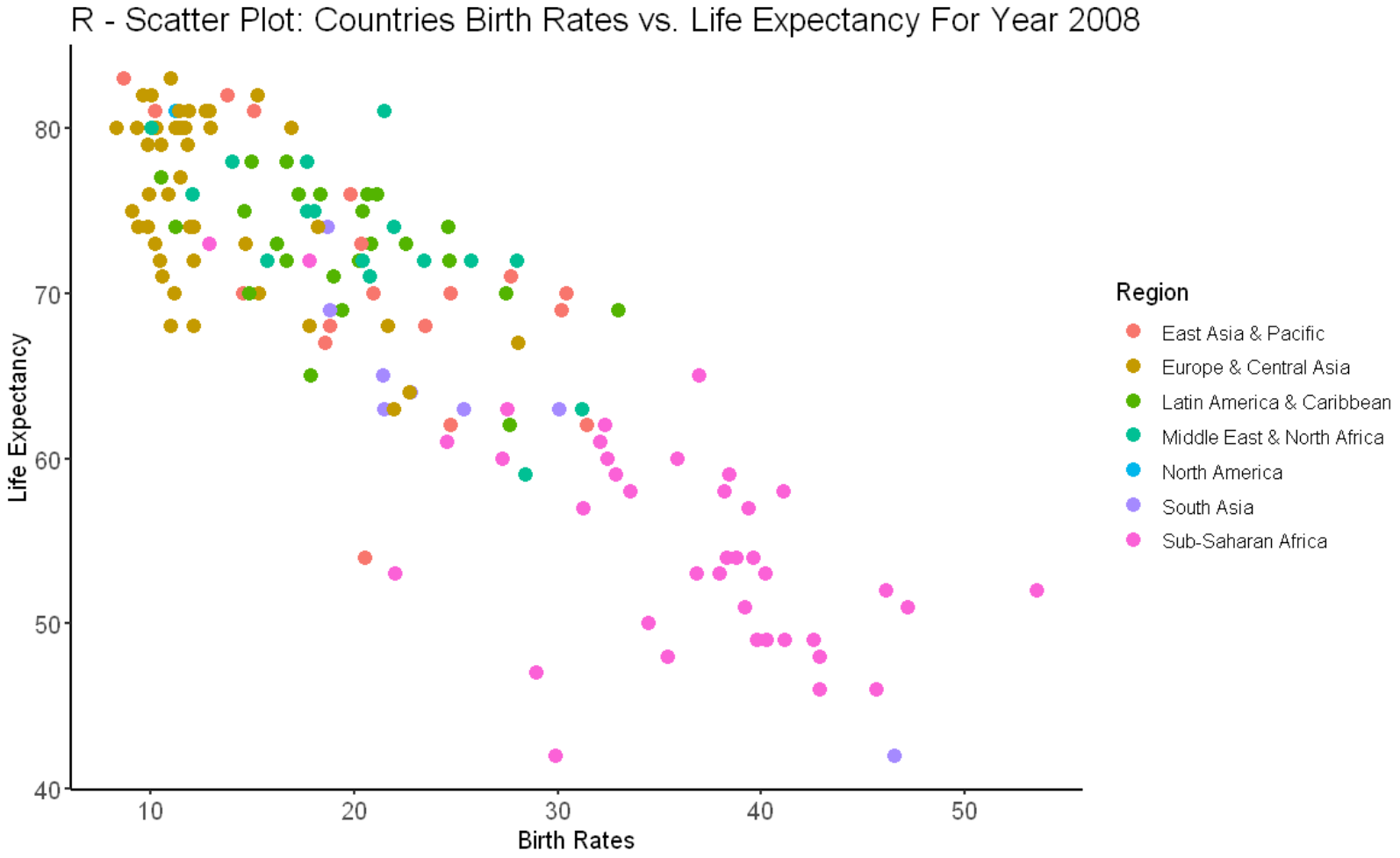
In [4]:
```
1 str(demographics)
```

```
'data.frame':   152 obs. of  8 variables:
 $ X           : int  0 1 2 3 5 6 7 8 9 10 ...
 $ country     : Factor w/ 152 levels "Afghanistan",..: 1 2 3 4 5 6 7 8 9 10 ...
 $ year        : int  2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 ...
 $ expectancy  : int  42 73 71 46 76 70 82 80 68 75 ...
 $ birthrates  : num  46.5 14.6 20.8 42.9 17.3 ...
 $ Country.Code: Factor w/ 152 levels "AFG","AGO","ALB",..: 1 3 41 2 5 6 7 8 9 16 ...
 $ gdp         : num  365 4371 4924 4081 9021 ...
 $ Region      : Factor w/ 7 levels "East Asia & Pacific",..: 6 2 4 7 3 2 1 2 2 4 ...
```

R - Scatter Plot

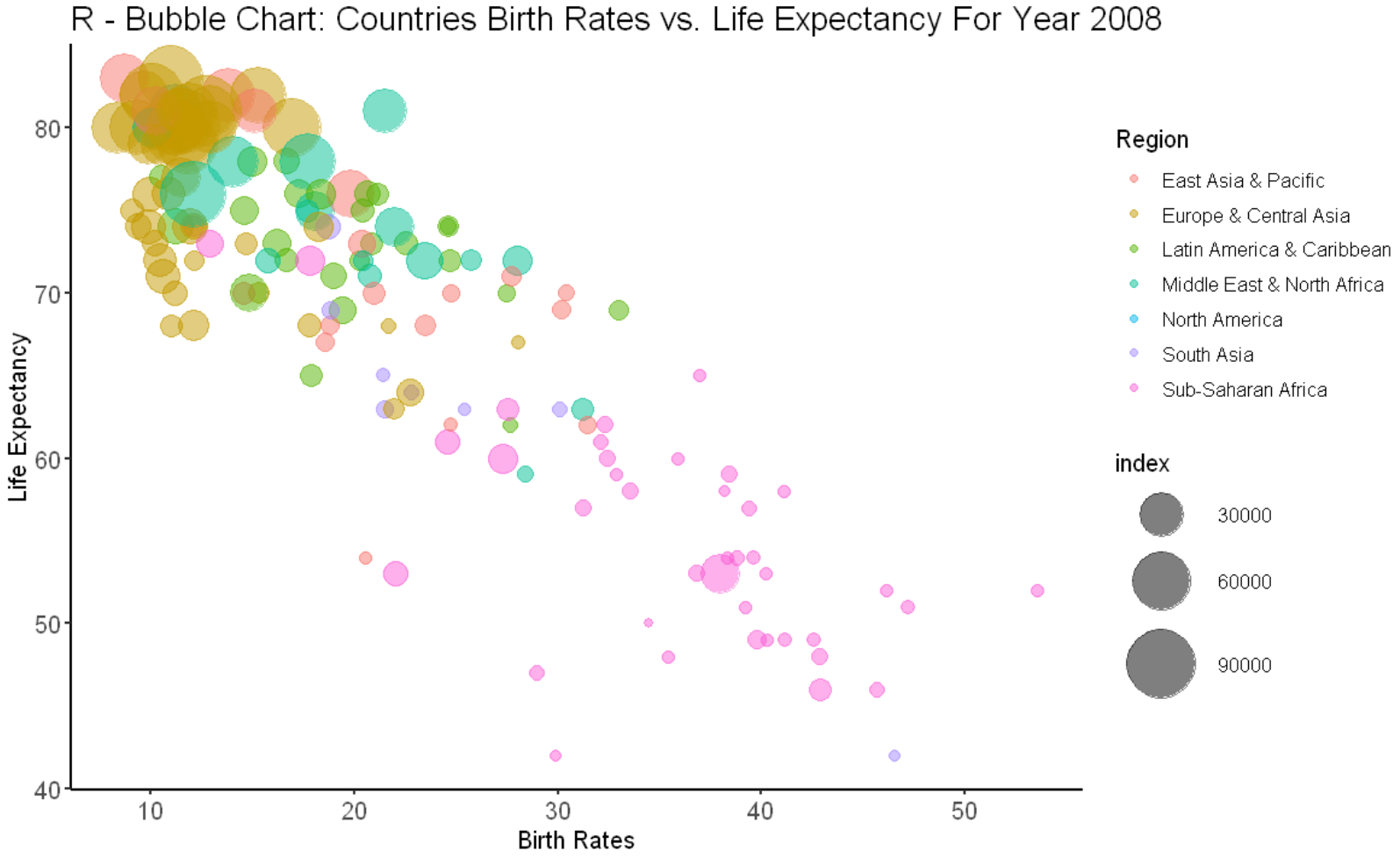
In [7]:

```
options(repr.plot.width =10, repr.plot.height =6)

ggplot(demographics, aes(x=birthrates, y=expectancy)) +
  geom_point(size = 3, aes(color=Region)) +
theme_classic() +
  theme(text = element_text(family="sans",size =12, color="black"), element_line(size = .6),
        plot.title = element_text(size = 16), axis.text.x = element_text(size=12),
        axis.text.y = element_text(size=12))+
ylab("Life Expectancy") +
xlab("Birth Rates") +
  ggtitle("R - Scatter Plot: Countries Birth Rates vs. Life Expectancy For Year 2008")

```



In [12]:

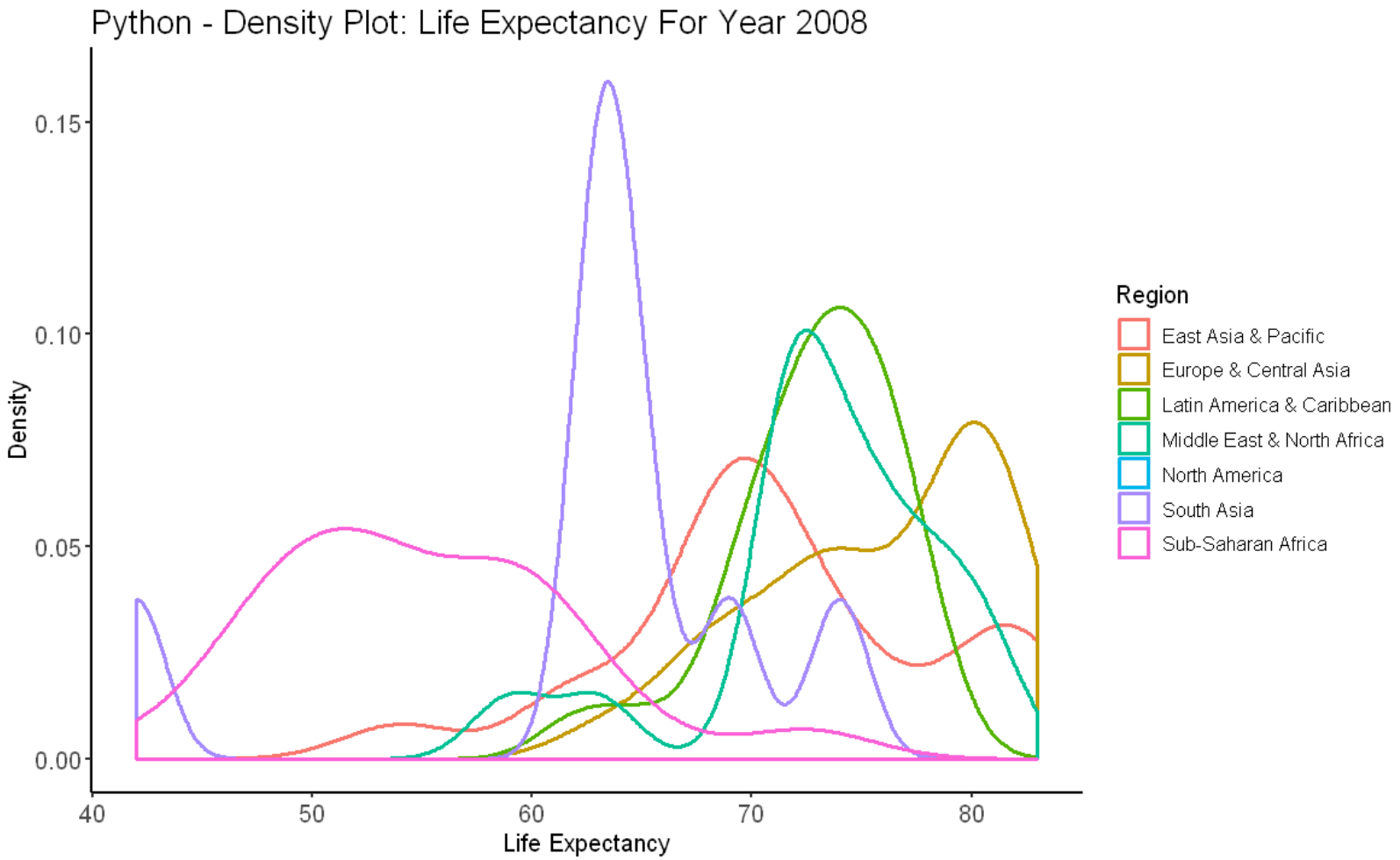
```
options(repr.plot.width =10, repr.plot.height =6)

ggplot(demographics, aes(x=birthrates, y=expectancy, size=gdp)) +
  geom_point(aes(color=Region), alpha=0.5) +
  scale_size(range = c(2,18), name="index") +
theme_classic() +
  theme(text = element_text(family="sans",size =12, color="black"), element_line(size =.7),
        plot.title = element_text(size = 16), axis.text.x = element_text(size=12),
        axis.text.y = element_text(size=12))+
ylab("Life Expectancy") +
xlab("Birth Rates") +
  ggtitle("R - Bubble Chart: Countries Birth Rates vs. Life Expectancy For Year 2008")
```



In [22]:

```
options(repr.plot.width =10, repr.plot.height =6)

ggplot(data = demographics, aes(x = expectancy, color =Region)) +
geom_density(size = 1) +
theme_classic() +
  theme(text = element_text(family="sans",size =12, color="black"), element_line(size = .6),
        plot.title = element_text(size = 16), axis.text.x = element_text(size=12),
        axis.text.y = element_text(size=12))+
xlab("Life Expectancy") +
ylab("Density") +
ggtitle("Python - Density Plot: Life Expectancy For Year 2008")

```

```
Warning message:
"Groups with fewer than two data points have been dropped."
```


Python - Density Plot: Life Expectancy For Year 2008
Density
0.15
0.10
0.05
0.00
40
50
60
70
80
Life Expectancy
Region
East Asia & Pacific
Europe & Central Asia
Latin America & Caribbean
Middle East & North Africa
North America
South Asia
Sub-Saharan Africa

In [ ]:

```
1
```