

VISUALIZE DATA USING ANY PLOTTING FRAMEWORK

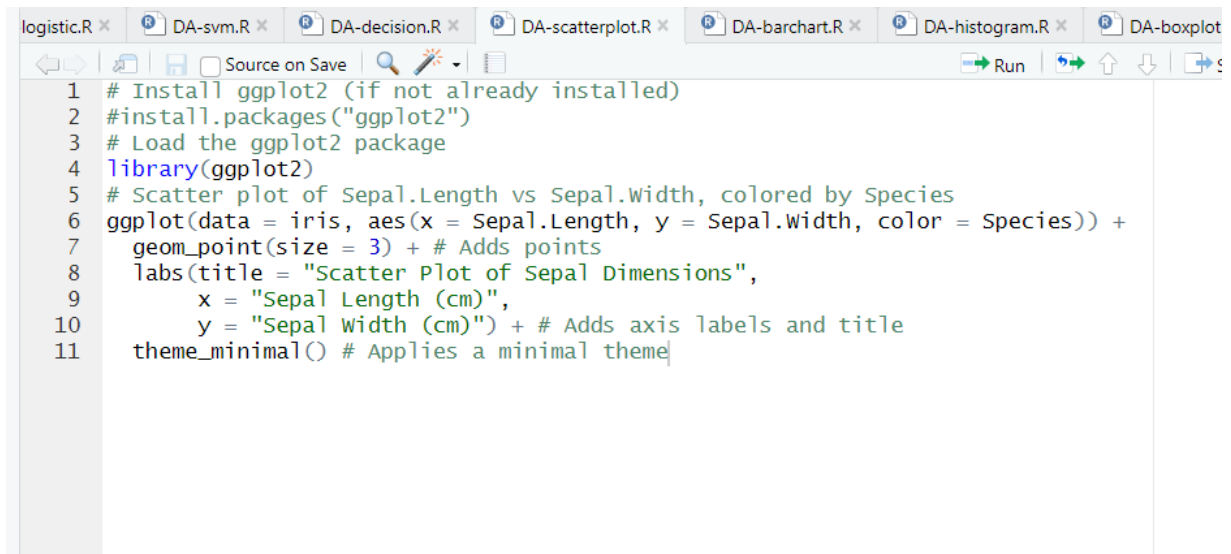
AIM:

To implement a visualize Data using any plotting framework using R Studio.

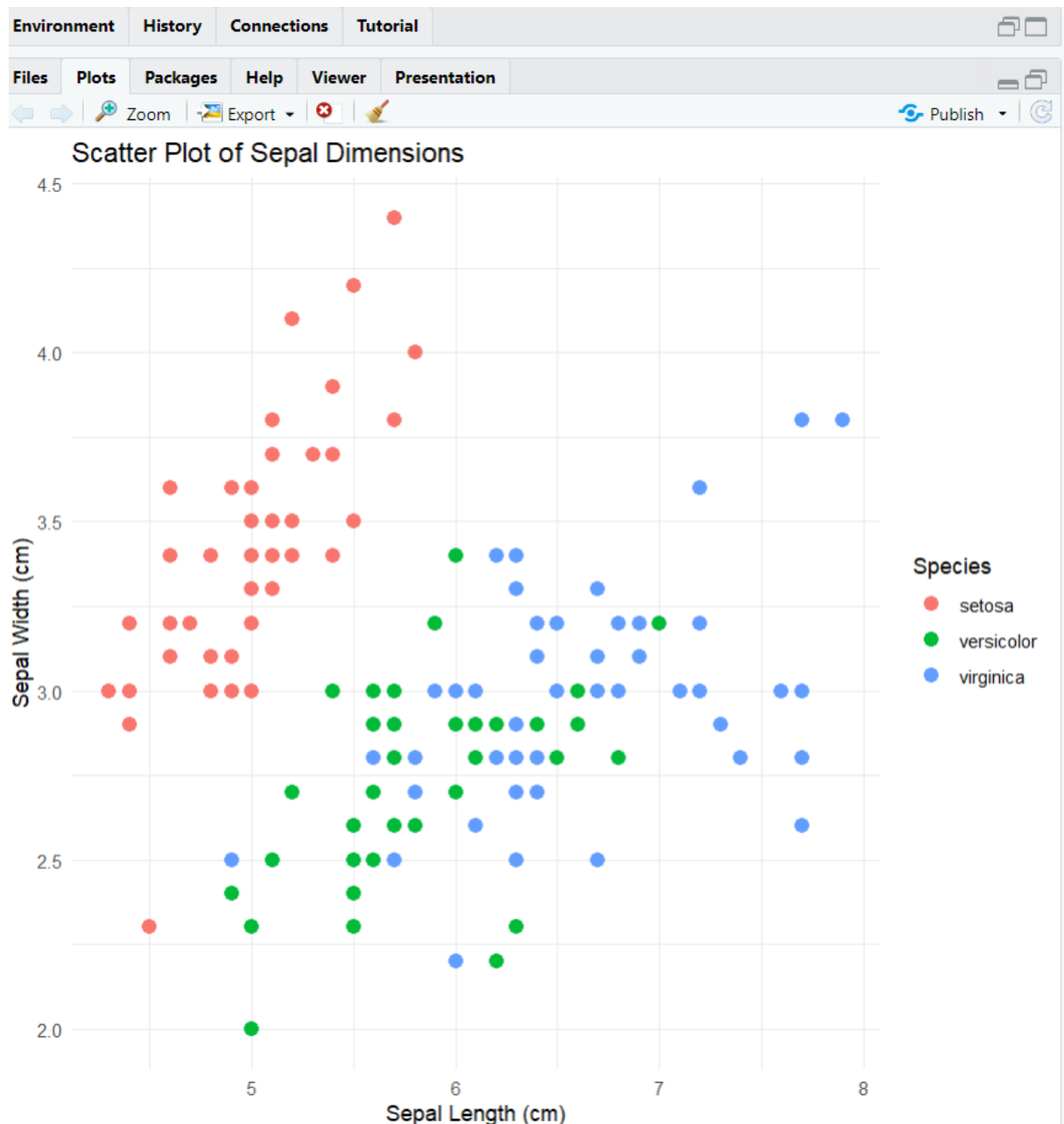
1) SCATTER PLOT

```
# Scatter plot of Sepal.Length vs Sepal.Width, colored by Species
ggplot(data = iris, aes(x = Sepal.Length, y = Sepal.Width, color = Species))
+ geom_point(size = 3) + # Adds points
labs(title = "Scatter Plot of Sepal Dimensions",
      x = "Sepal Length (cm)",
      y = "Sepal Width (cm)") + # Adds axis labels and title
theme_minimal() # Applies a minimal theme
```

OUTPUT:

The image shows a screenshot of the R Studio interface. At the top, there are several tabs for R scripts: 'logistic.R', 'DA-svm.R', 'DA-decision.R', 'DA-scatterplot.R' (which is the active tab), 'DA-barchart.R', 'DA-histogram.R', and 'DA-boxplot'. Below the tabs is a toolbar with icons for navigation and execution. The main editor area displays the following R code:

```
1 # Install ggplot2 (if not already installed)
2 #install.packages("ggplot2")
3 # Load the ggplot2 package
4 library(ggplot2)
5 # Scatter plot of Sepal.Length vs Sepal.Width, colored by Species
6 ggplot(data = iris, aes(x = Sepal.Length, y = Sepal.Width, color = Species)) +
7   geom_point(size = 3) + # Adds points
8   labs(title = "Scatter Plot of Sepal Dimensions",
9         x = "Sepal Length (cm)",
10        y = "Sepal Width (cm)") + # Adds axis labels and title
11   theme_minimal() # Applies a minimal theme
```



2) BAR CHART

```
# Install ggplot2 (if not already installed)
```

```
install.packages("ggplot2")
```

```
# Load the ggplot2 package
```

```
library(ggplot2)
```

```
# Bar plot of Species counts ggplot(data
```

```
= iris, aes(x = Species)) +
```

```
  geom_bar(fill = "steelblue") + # Adds bars filled with steel blue color
```

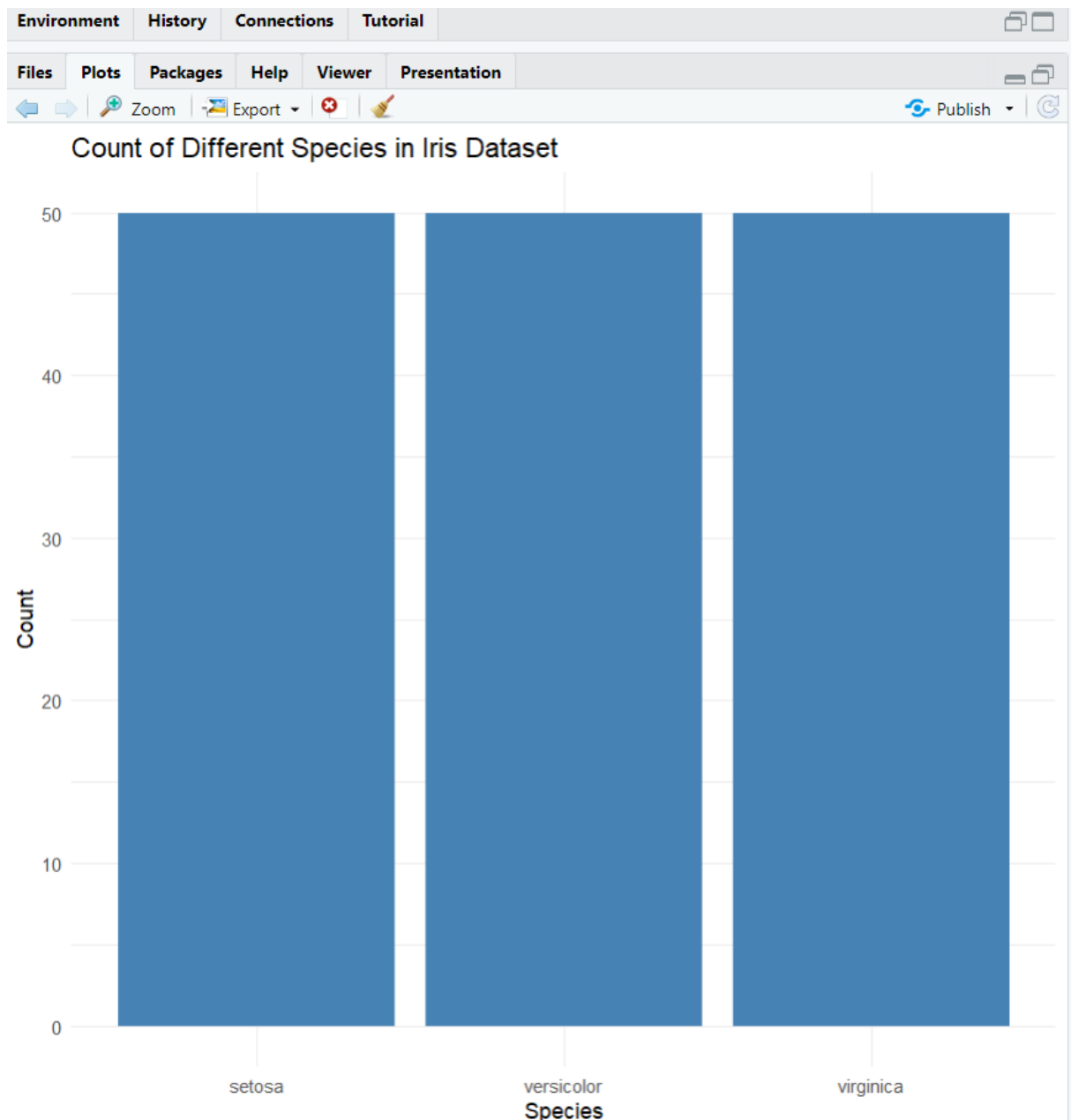
```
  labs(title = "Count of Different Species in Iris
```

```
Dataset", x = "Species", y = "Count") +
```

```
  theme_minimal())
```

OUTPUT:

```
logistic.R x DA-svm.R x DA-decision.R x DA-scatterplot.R x DA-barchart.R x DA-histogram.R x DA-b
Source on Save Run
1 # Install ggplot2 (if not already installed)
2 #install.packages("ggplot2")
3 # Load the ggplot2 package
4 library(ggplot2)
5 # Bar plot of Species counts
6 ggplot(data = iris, aes(x = Species)) +
7   geom_bar(fill = "steelblue") + # Adds bars filled with steel blue color
8   labs(title = "Count of Different Species in Iris Dataset",
9         x = "Species",
10        y = "Count") +
11   theme_minimal()
12 |
```



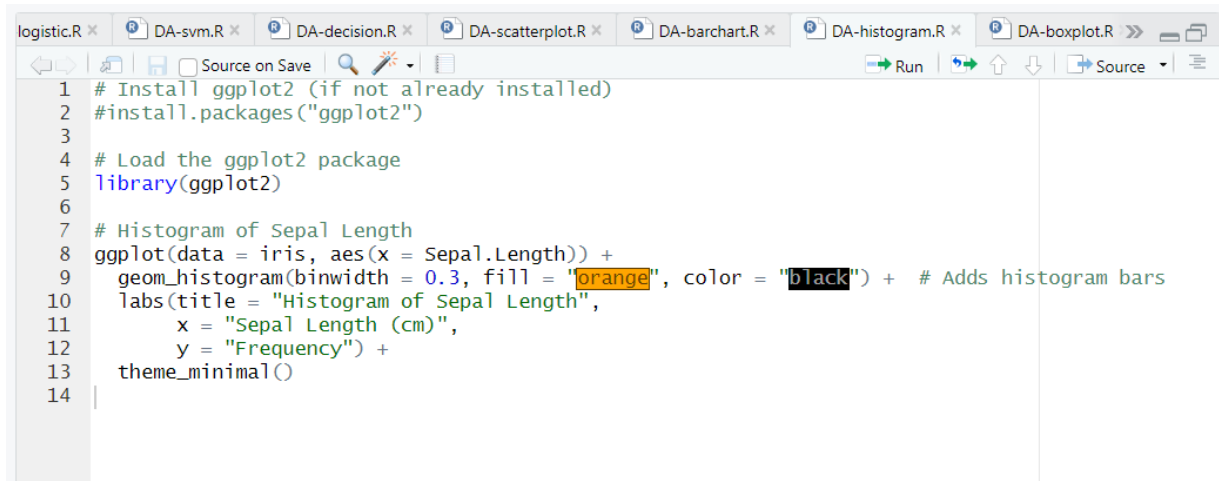
3) HISTOGRAM

```
# Install ggplot2 (if not already installed)
install.packages("ggplot2")

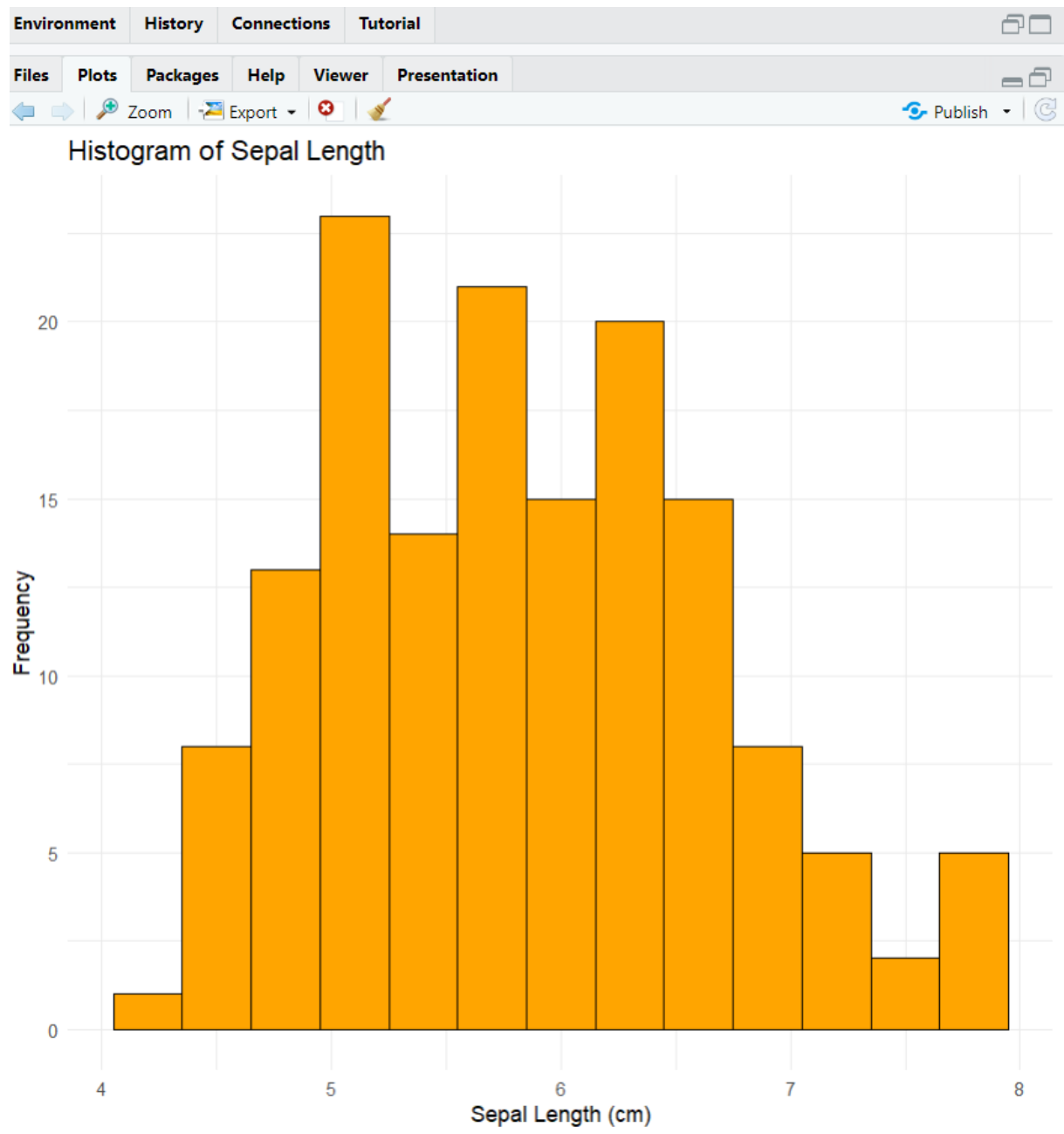
# Load the ggplot2 package
library(ggplot2)

# Histogram of Sepal Length
ggplot(data = iris, aes(x = Sepal.Length)) +
  geom_histogram(binwidth = 0.3, fill = "orange", color = "black") + # Adds
  histogram bars
  labs(title = "Histogram of Sepal
Length", x = "Sepal Length (cm)",
y = "Frequency") +
  theme_minimal()
```

OUTPUT:



```
logistic.R x DA-svm.R x DA-decision.R x DA-scatterplot.R x DA-barchart.R x DA-histogram.R x DA-boxplot.R x
1 # Install ggplot2 (if not already installed)
2 #install.packages("ggplot2")
3
4 # Load the ggplot2 package
5 library(ggplot2)
6
7 # Histogram of Sepal Length
8 ggplot(data = iris, aes(x = Sepal.Length)) +
9   geom_histogram(binwidth = 0.3, fill = "orange", color = "black") + # Adds histogram bars
10   labs(title = "Histogram of Sepal Length",
11     x = "Sepal Length (cm)",
12     y = "Frequency") +
13   theme_minimal()
14 |
```



4)BOX PLOT

Install ggplot2 (if not already installed)

```
install.packages("ggplot2")
```

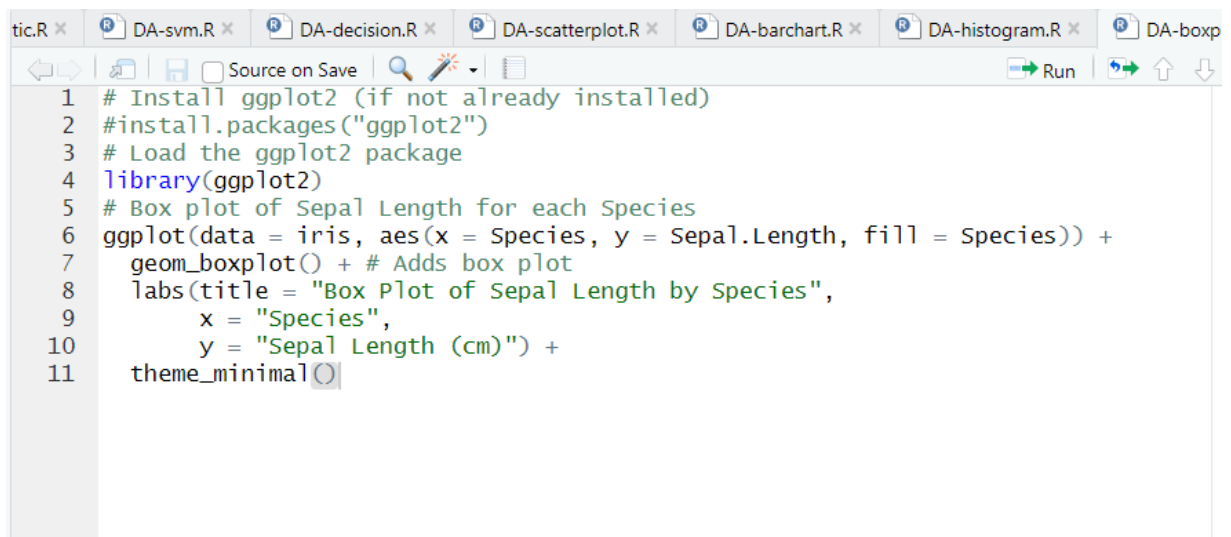
Load the ggplot2 package

```
library(ggplot2)
```

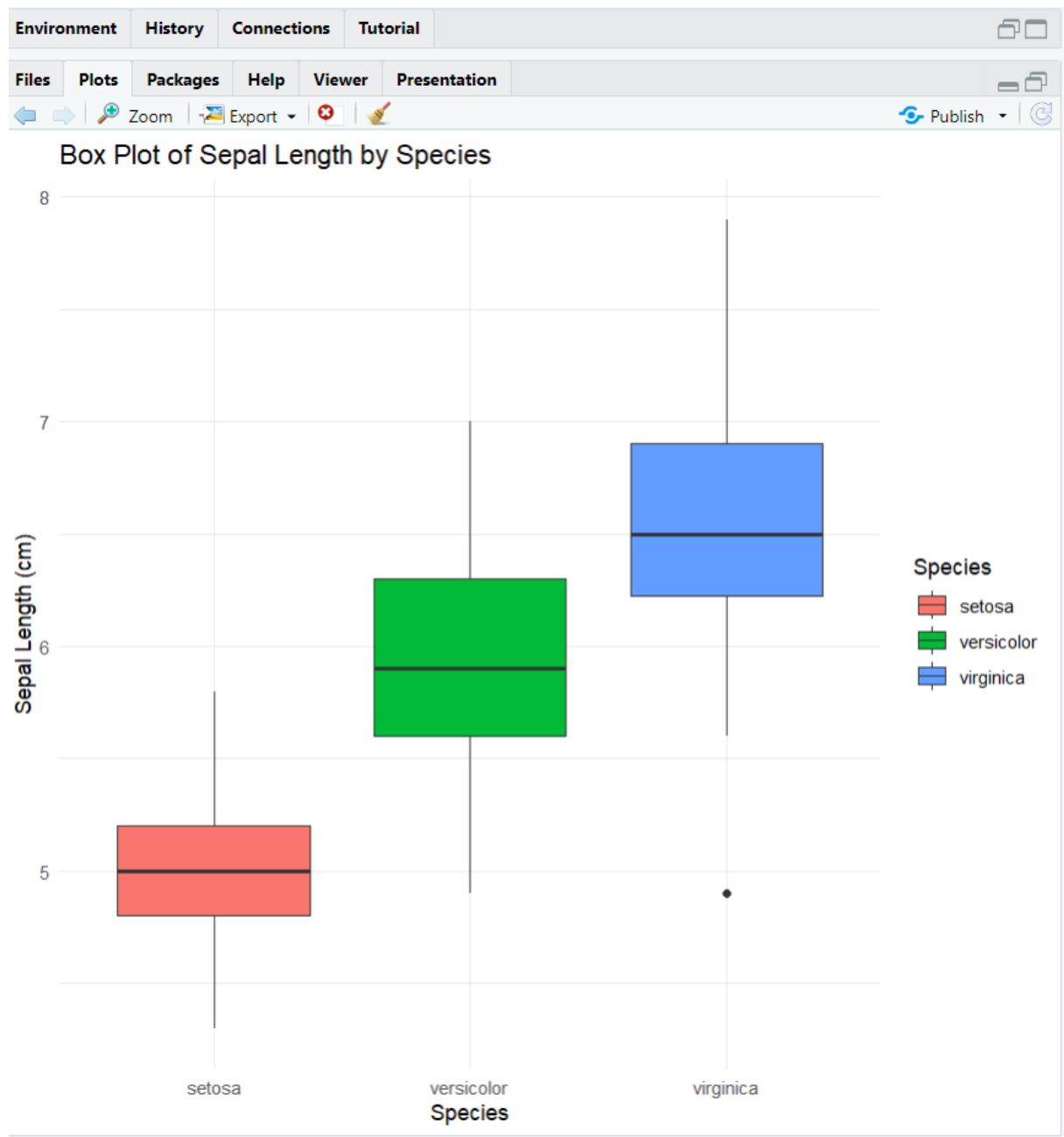
Box plot of Sepal Length for each Species

```
ggplot(data = iris, aes(x = Species, y = Sepal.Length, fill = Species))  
+ geom_boxplot() + # Adds box plot  
labs(title = "Box Plot of  
Sepal Length by Species",  
x = "Species",  
y = "Sepal Length  
(cm)") + theme_minimal()
```

OUTPUT:



```
tic.R x DA-svm.R x DA-decision.R x DA-scatterplot.R x DA-barchart.R x DA-histogram.R x DA-boxp  
1 # Install ggplot2 (if not already installed)  
2 #install.packages("ggplot2")  
3 # Load the ggplot2 package  
4 library(ggplot2)  
5 # Box plot of Sepal Length for each Species  
6 ggplot(data = iris, aes(x = Species, y = Sepal.Length, fill = Species)) +  
7   geom_boxplot() + # Adds box plot  
8   labs(title = "Box Plot of Sepal Length by Species",  
9         x = "Species",  
10        y = "Sepal Length (cm)") +  
11   theme_minimal()
```



RESULT:

Thus, the visualize Data using any plotting framework using R Studio have been successfully executed.