DSA0609- DATA HANDLING AND DATA VISULIZATION

LAB SESSION 4

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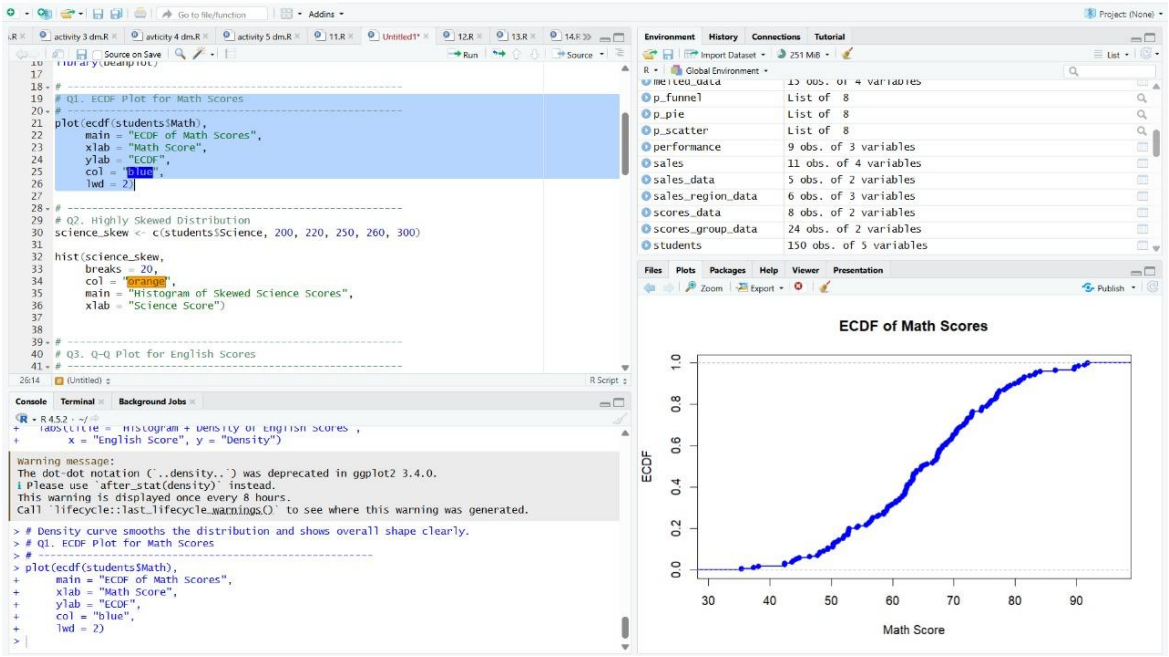
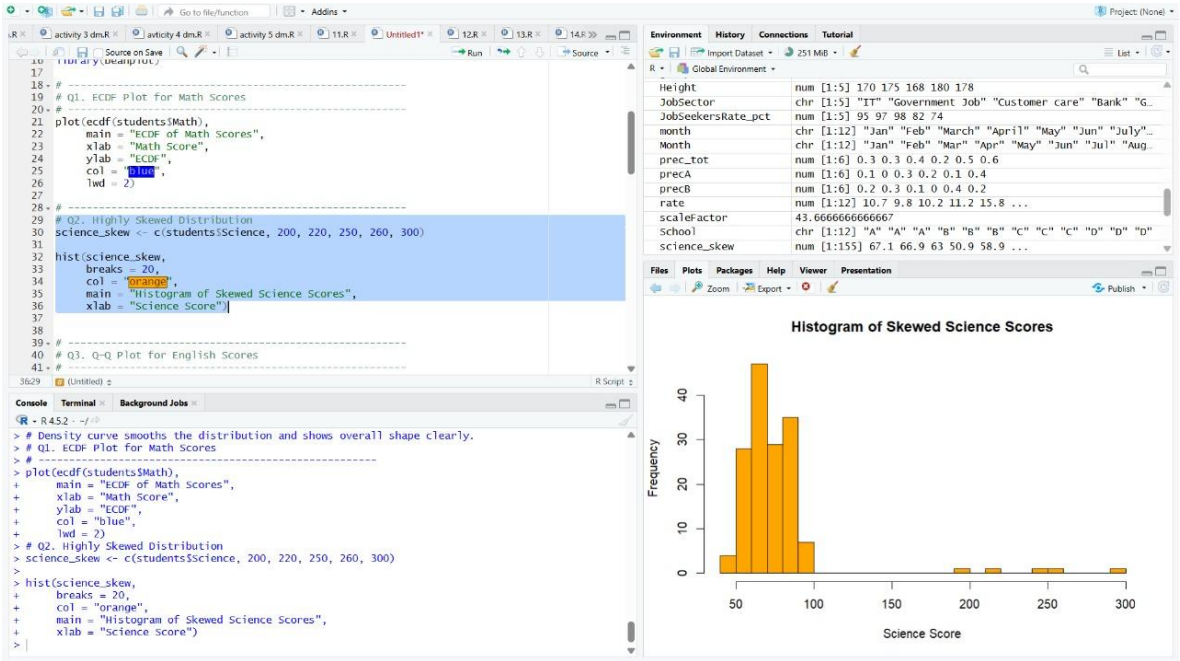
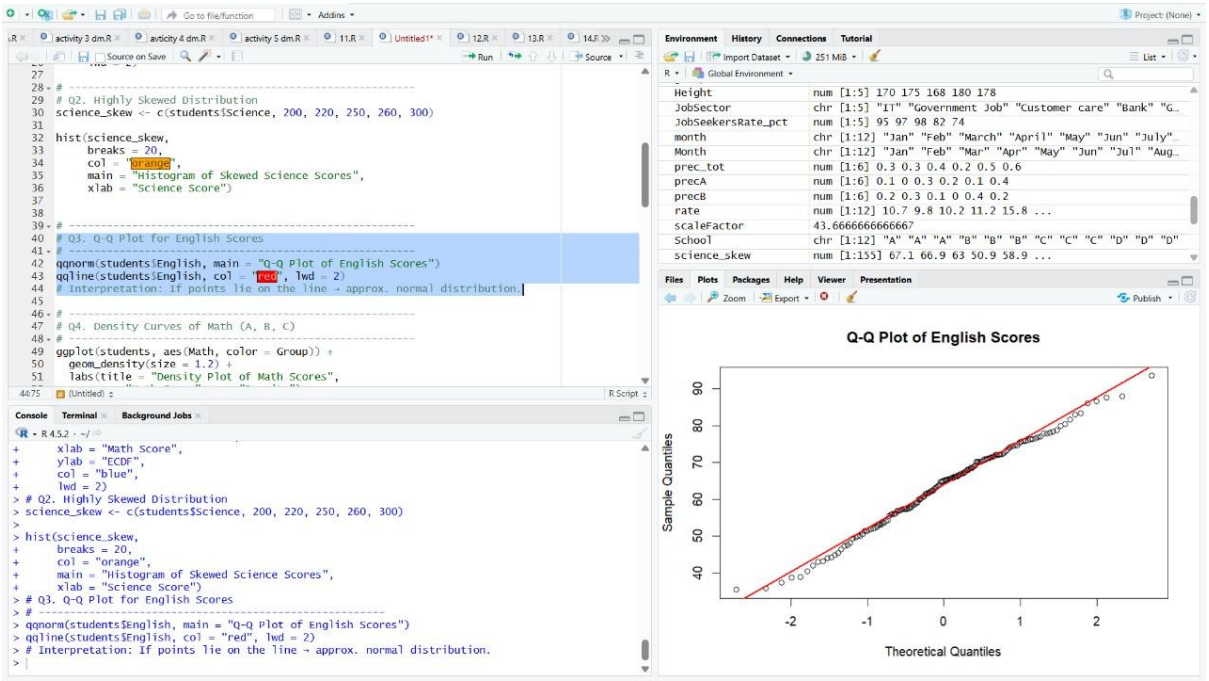
1.



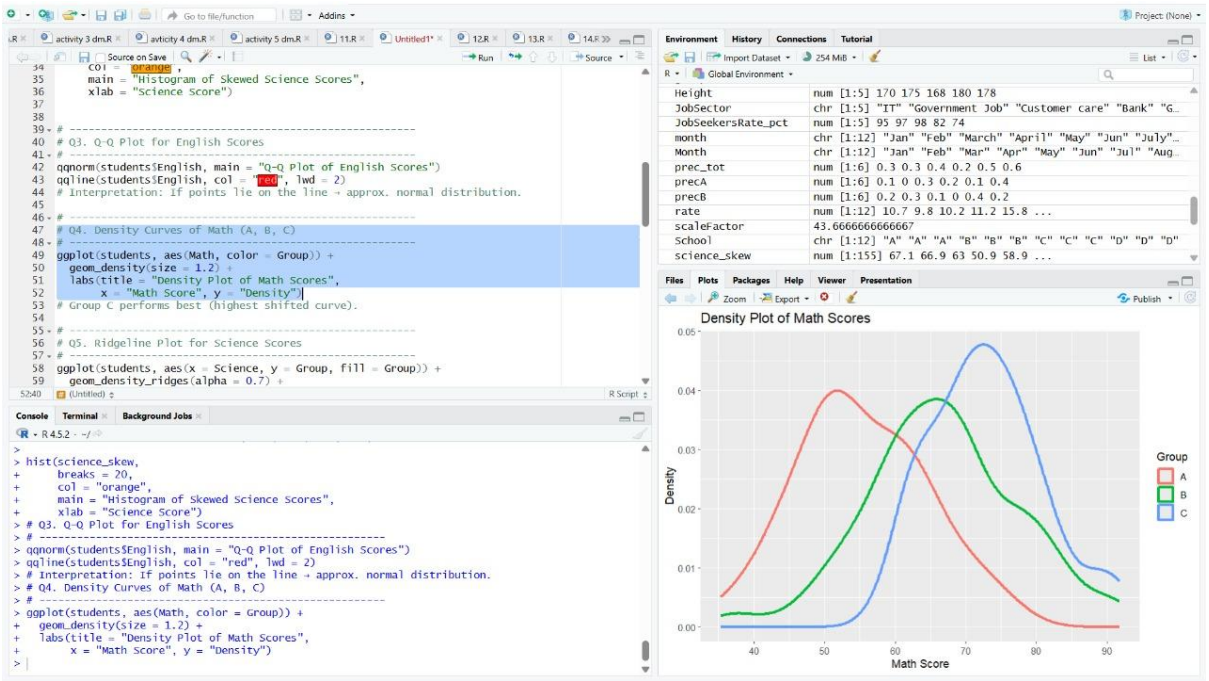
2.



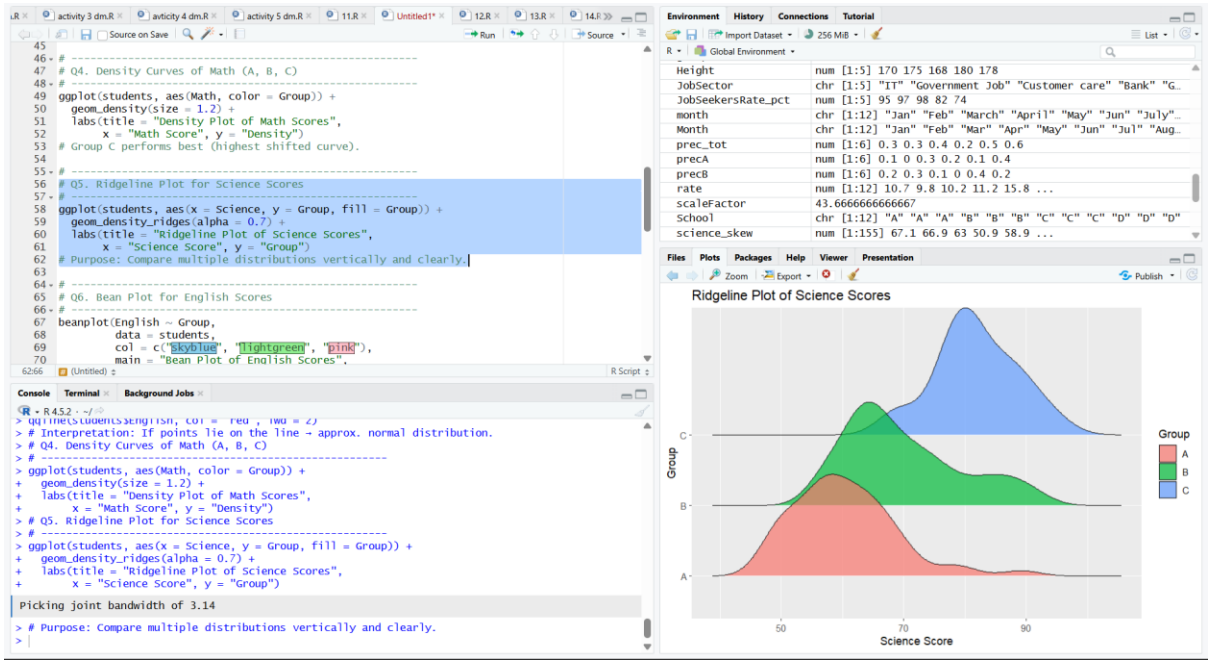
3.


Q-Q Plot of English Scores
Sample Quantiles
Theoretical Quantiles
40
50
60
70
80
90
-2
-1
0
1
2

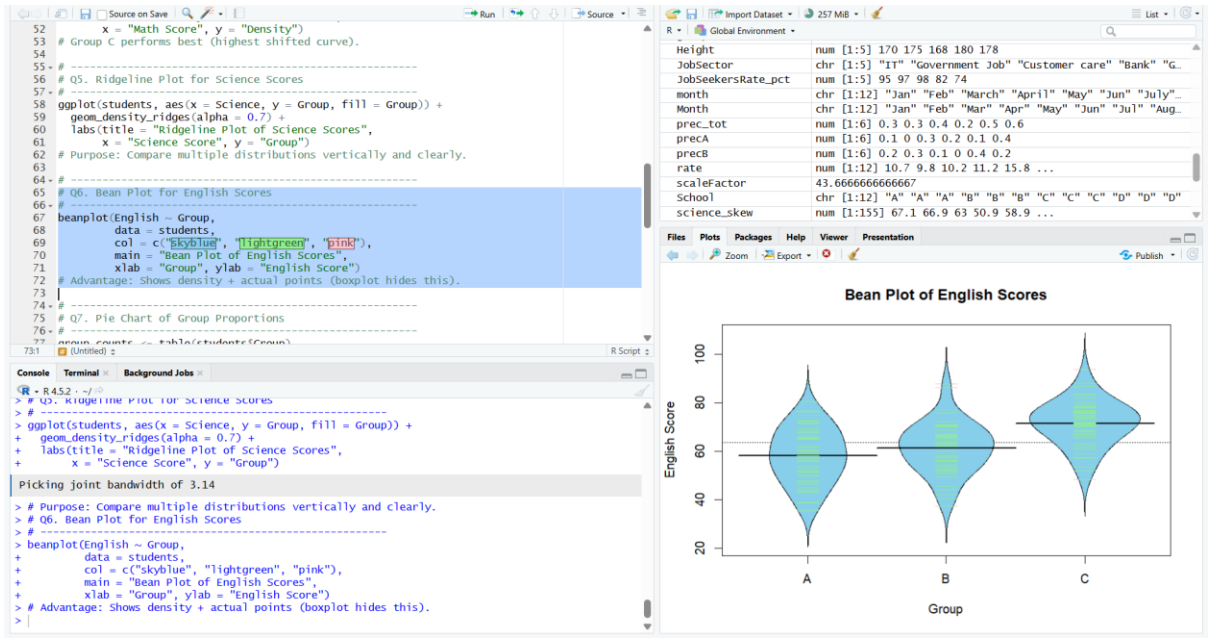
4.


Density Plot of Math Scores
Density
Math Score
Group
A
B
C
0.00
0.01
0.02
0.03
0.04
0.05
40
50
60
70
80
90

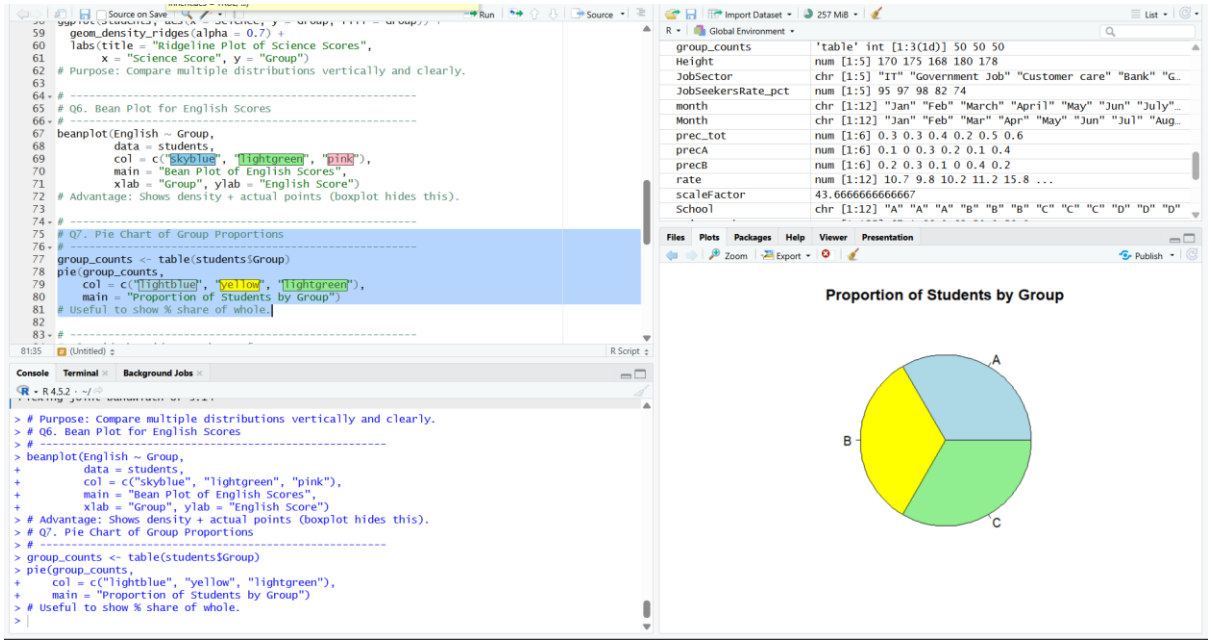
5.


Ridgeline Plot of Science Scores
Group
A
B
C
Science Score
50
70
90

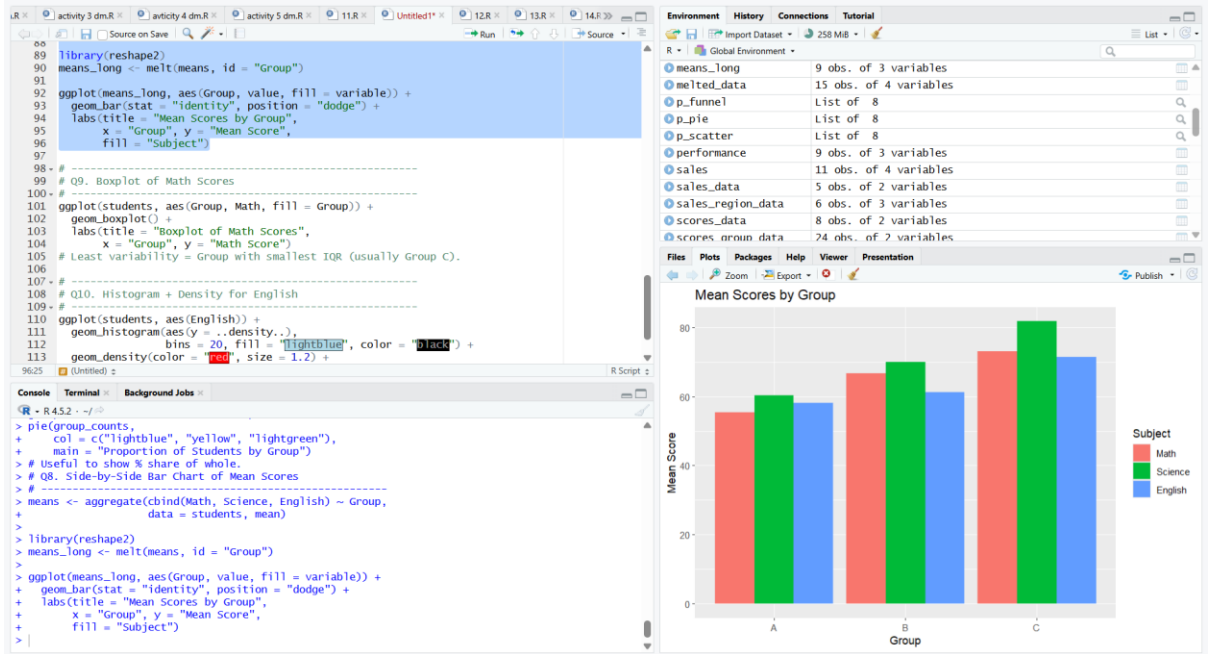
6.


Bean Plot of English Scores
English Score
20
40
60
80
100
A
B
C
Group

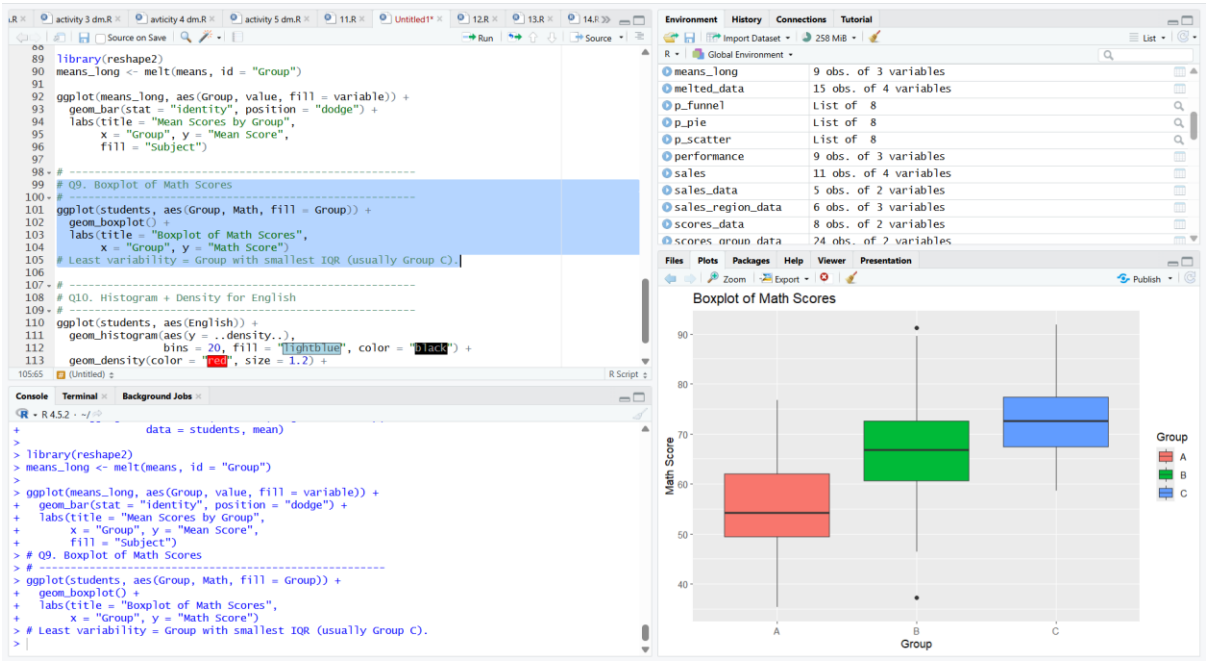
7.


Proportion of Students by Group
A
B
C

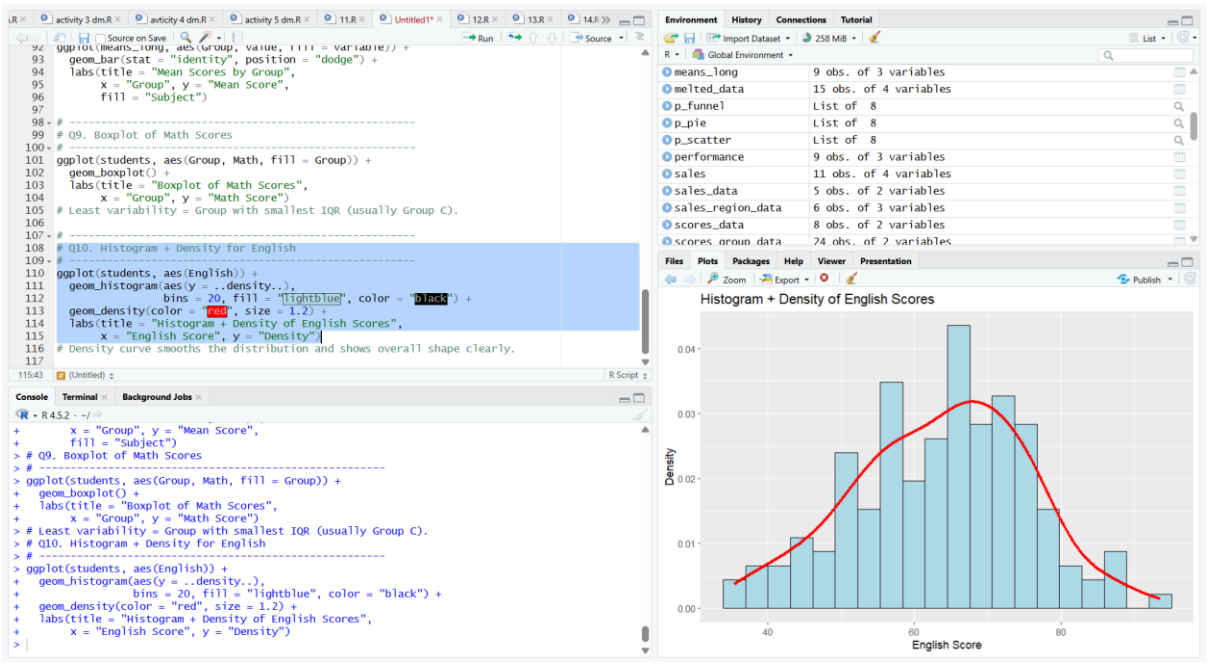
8.


Mean Scores by Group
Mean Score
Group
Subject
Math
Science
English

9.


library(reshape2)
means_long <- melt(means, id = "Group")
ggplot(means_long, aes(Group, value, fill = variable)) +
geom_bar(stat = "identity", position = "dodge") +
labs(title = "Mean Scores by Group",
x = "Group", y = "Mean Score",
fill = "Subject")
# Q9. Boxplot of Math Scores
ggplot(students, aes(Group, Math, fill = Group)) +
geom_boxplot() +
labs(title = "Boxplot of Math Scores",
x = "Group", y = "Math Score")
# Least variability = Group with smallest IQR (usually Group C).
# Q10. Histogram + Density for English
ggplot(students, aes(English)) +
geom_histogram(aes(y = ..density..),
bins = 20, fill = "lightblue", color = "black") +
geom_density(color = "red", size = 1.2) +
Boxplot of Math Scores
Math Score
Group
A
B
C

10.


ggplot(means_long, aes(Group, value, fill = variable)) +
geom_bar(stat = "identity", position = "dodge") +
labs(title = "Mean Scores by Group",
x = "Group", y = "Mean Score",
fill = "Subject")
# Q9. Boxplot of Math Scores
ggplot(students, aes(Group, Math, fill = Group)) +
geom_boxplot() +
labs(title = "Boxplot of Math Scores",
x = "Group", y = "Math Score")
# Least variability = Group with smallest IQR (usually Group C).
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ggplot(students, aes(English)) +
geom_histogram(aes(y = ..density..),
bins = 20, fill = "lightblue", color = "black") +
geom_density(color = "red", size = 1.2) +
labs(title = "Histogram + Density of English Scores",
x = "English Score", y = "Density")
Histogram + Density of English Scores
Density
English Score