Unit 4 and 4+ Self Check

Due Sep 11 at 11:59pm **Points** 12 **Questions** 12
Available Aug 29 at 12am - Sep 18 at 11:59pm **Time Limit** None
Allowed Attempts 2

Instructions

Unit 4 and 4+ Self Check

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	3,785 minutes	12 out of 12

Score for this attempt: **12** out of 12
Submitted Sep 10 at 8:55am
This attempt took 3,785 minutes.

Question 1

1 / 1 pts

The Pearson's correlation coefficient is suitable for detecting non-linear relationships.

- ○ True
- ◉ False

Correct!

Question 2

1 / 1 pts

Spearman's rho does not deal with the values of the attributes but the rank of these values.

Correct!

- (●) True
- ( ) False

Question 3

1 / 1 pts

Consider the dataset mtcars loaded in an R session. What is the Spearman correlation coefficient between the attributes cyl and mpg?

- ( ) -0.7953134
- ( ) -0.8521620

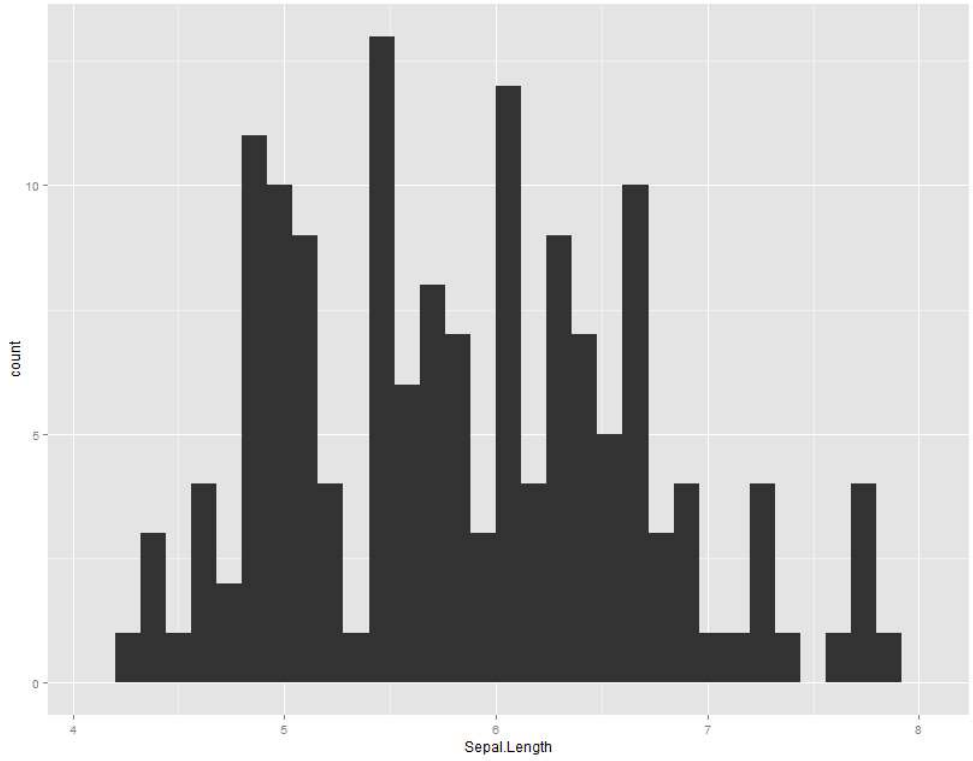
Correct!

- (●) -0.9108013

Question 4

1 / 1 pts

Which line of code will produce the following histogram?



- hist(iris$Sepal.Length)

Correct!

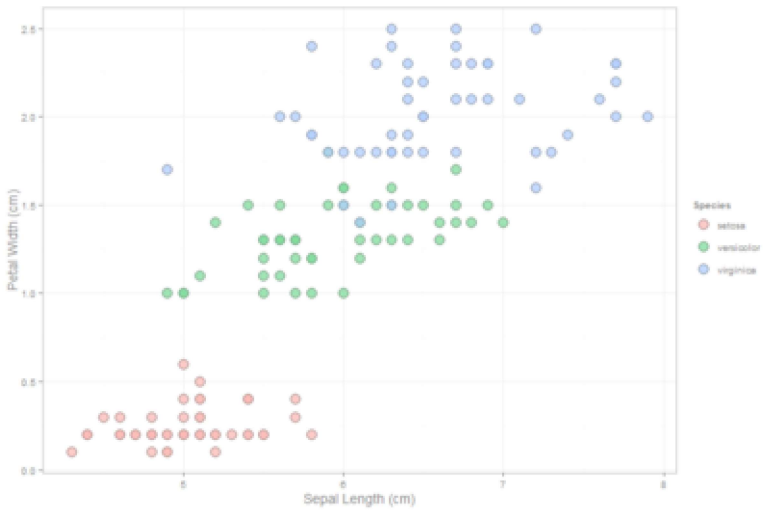
- qplot(data=iris, Sepal.Length)

Question 5

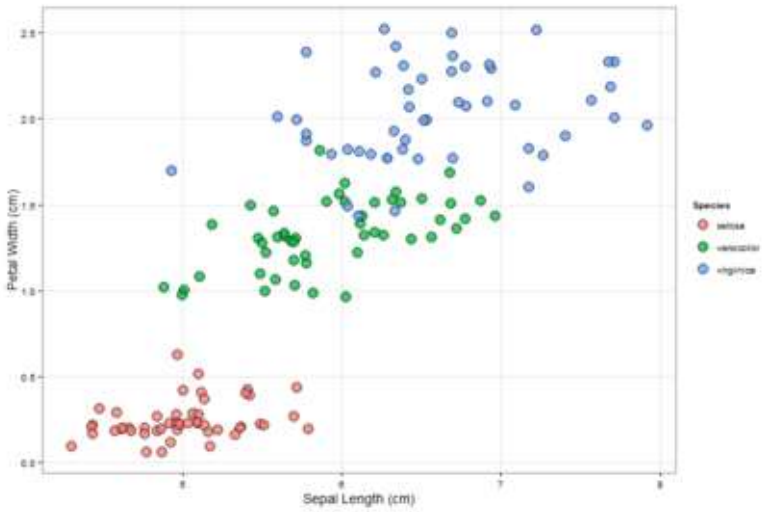
1 / 1 pts

Which plot will be the result of the following code?

```
ggplot(data=iris, aes(x=Sepal.Length,y=Petal.Width)) +
  geom_point(aes(fill=Species),
             alpha=I(.75),
             position = "jitter",
             colour="black",pch=21, size=5) +
  theme_bw() +
  labs(y = "Petal Width (cm)",
       x = "Sepal Length (cm)") +
  theme(legend.key=element_blank(),
        axis.title = element_text(size = 14))
```



Correct!



Question 6

1 / 1 pts

The Grubb's test allows you to detect several outliers in the dataset.

- True
- False

Correct!

Question 7

1 / 1 pts

In the Animals dataset, which record is identified as an outlier for the brain attribute?

- Brachiosaurus
- Correct! African elephant
- Dipliodocus

Question 8

1 / 1 pts

Match the different missing value mechanisms with their definition:

- Correct! **MAR** — The probability of a miss
- Correct! **MCAR** — The probability of a miss
- Correct! **MNAR** — The probability of a miss

Question 9

1 / 1 pts

Consider the mtcars dataset loaded in an R session. Keep only the variables cyl, mpg, hp and qsec, and set the following variables cases to missing:

- Attribute mpg for observations 6 thru 15
- Attribute hp for observations 13 thru 21
- Attribute qsec for observations 10 thru 18

What are the overall missing proportions for cars with 4 cylinders (mpg, hp and qsec respectively)?

- 0.4285714 0.0000000 0.28571429
- 0.3571429 0.3571429 0.42857143

Correct!

- (selected) 0.1818182 0.3636364 0.09090909

Question 10

1 / 1 pts

If you want to use a dimension reduction technique that will enhance the separability of your data, which one should it be?

- Principal Component Analysis

Correct!

- (selected) Linear Discriminant Analysis
- t-distributed Stochastic Neighbor Embedding

Question 11

1 / 1 pts

Consider the dataset mtcars loaded in an R session. Run a Principal Component Analysis and make sure the variables are z-score standardized. What is the cumulative proportion of the variance for the first two PCs?

Correct!

- (selected) 0.84170
- 0.99937

Question 12

1 / 1 pts

Consider the dataset mtcars loaded in an R session. Run a Principal Component Analysis and make sure the variables are z-score standardized. Which of the following attributes is the least represented in the first principal component?

Correct!

- (selected) carb
- cyl
- mpg

Quiz Score: **12** out of 12