



Review Test Submission: MBC638 Quiz #4 - 3D Maps, Correlation, Simple Regression (due Sunday, Sept. 23, 10:00pm)

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Course	MBC638.M001.FALL18.Data Anls & Decsn Making
Test	MBC638 Quiz #4 - 3D Maps, Correlation, Simple Regression (due Sunday, Sept. 23, 10:00pm)
Started	9/23/18 11:06 AM
Submitted	9/23/18 11:53 AM
Status	Completed
Attempt Score	100 out of 100 points
Time Elapsed	46 minutes out of 1 hour
Results Displayed	All Answers, Submitted Answers, Correct Answers, Feedback, Incorrectly Answered Questions

Question 1

5 out of 5 points



Independence implies **zero correlation**.

Selected Answer: True

Answers: True

False

Response Feedback:

Question 2

5 out of 5 points



The **correlation coefficient** between two variables X and Y equals **0.000001**. What should be the correct conclusion?

Select one answer.

Selected Answer: The two variables are **not linearly related** to each other

Answers: **Y is always fixed**, regardless of the values of X

The two variables are related to each other but in a **non-linear** way

The two variables are **not linearly related** to each other

X is always fixed, regardless of the values of Y

The two variables are **not related** to each other

The two variables are **independent**

Response Feedback:

Question 3

5 out of 5 points



Zero correlation implies **independence**.

Selected Answer: False

Answers: True

False

Response Feedback:

Question 4

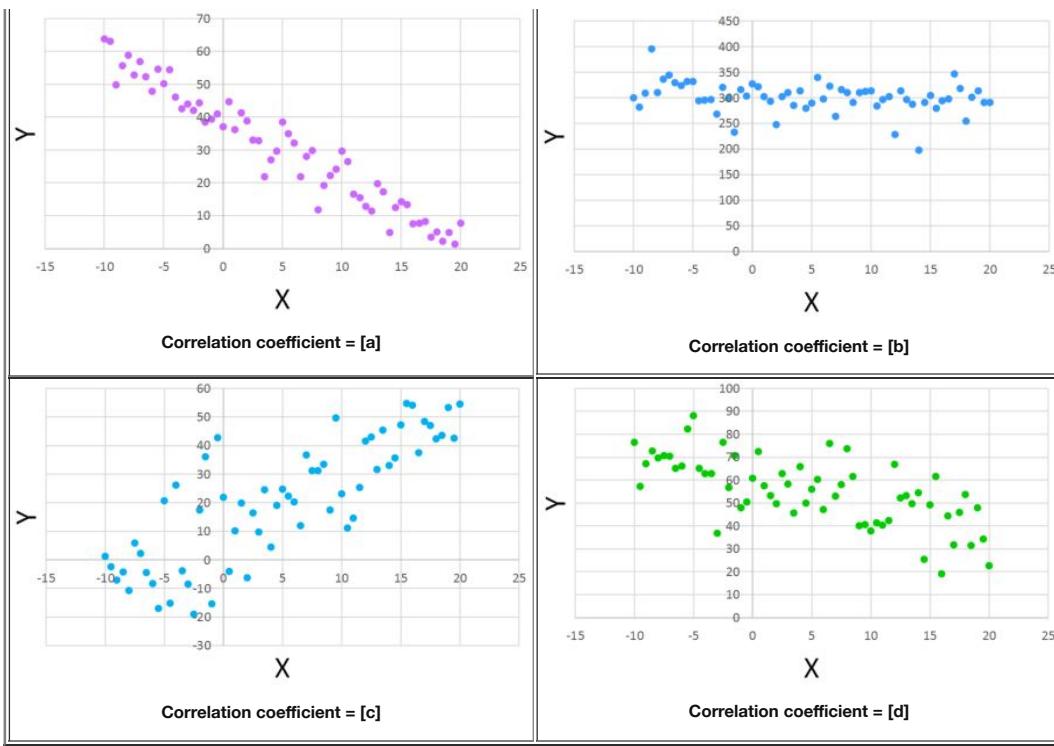
10 out of 10 points



For each scatterplot below, guess the value of the **correlation coefficient**.

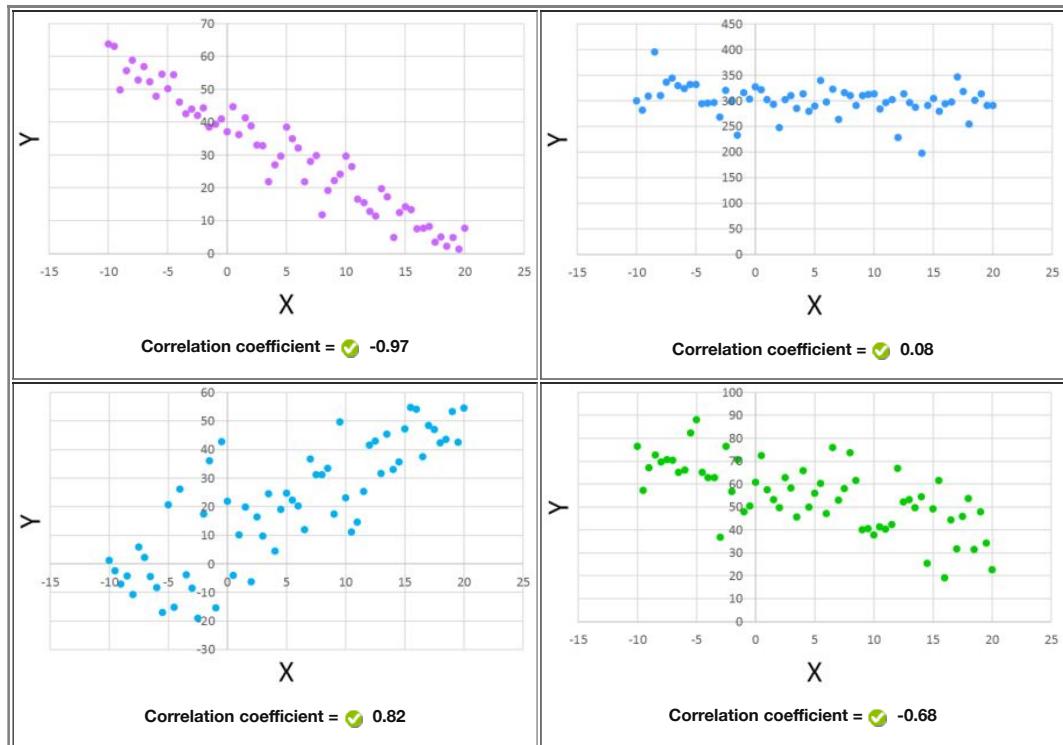
Each value of the correlation coefficient can be used only once.

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Selected Answer: For each scatterplot below, guess the value of the **correlation coefficient**.

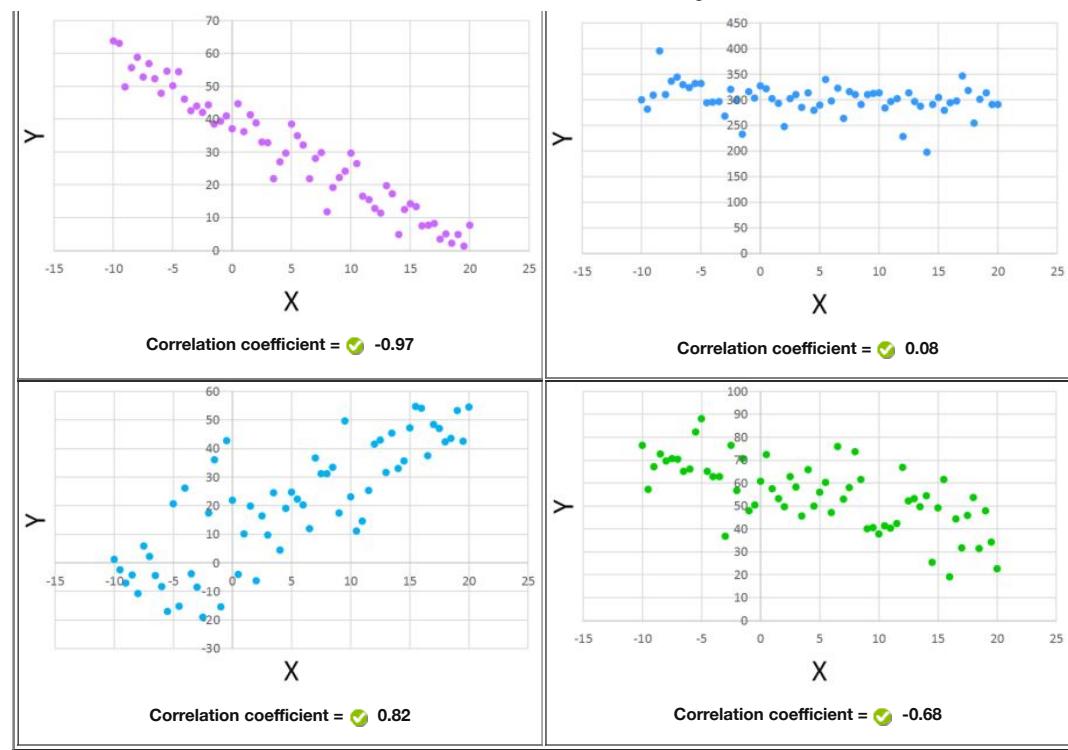
Each value of the correlation coefficient can be used only once.



Answers:

For each scatterplot below, guess the value of the **correlation coefficient**.

Each value of the correlation coefficient can be used only once.

All Answer Choices

- 1
- 0.97
- 0.68
- 0.08
- 0.82
- 0.97
- +1

Response Feedback: 😊

Question 5

15 out of 15 points



Banks play a crucial role in market economies. They decide who can get finance and on what terms and can make or break investment decisions. For markets and society to function, individuals and companies need access to credit.

Credit scoring algorithms, which make a guess at the probability of default, are the method banks use to determine whether or not a loan should be granted.

You are an analyst at a bank and you want to build a model to predict the Debt Ratio of borrowers. The file [Give me some credit.xlsx](#) contains historical data for 150,000 borrowers in the bank. Using ± 0.5 as a cut-off point, which characteristics of the borrowers is the

Debt Ratio strongly correlated with? **Mark all those that apply.**

Selected Answers: None of the above

Answers: None of the above

Monthly Income

Age

Number of open credit lines and loans

Number of real estate loans or lines

Number of times 90 days late

Response Feedback: 😊

Question 6

15 out of 15 points



You are a marketing analyst and are conducting a market research investigating different brands of chocolate bars. The Excel data [flavors_of_cacao.xlsx](#) contains information on 1795 chocolate bar products. The following table summarizes the data variables:

company	Name of company
specific bean origin or bar name	Regional origin
review date	Year of review
cocoa percent	Percentage of cocoa
company location	Country where the company is located
rating	Chocolate bar rating
bean type	The type of cocoa bean
broad bean origin	Origin (country name)

You develop a regression model to see how the chocolate bar **rating** (Column G) is explained by **cocoa percent** (Column E).

Which of the following would be the correct interpretation of the **intercept**?

Selected Answer: A chocolate bar with 0 percentage of cocoa is predicted to have a rating of 4.07.

Answers: A chocolate bar with a rating of 0 is predicted to have 4.079 percent of cocoa.

Every additional percent of cocoa is predicted to decrease the rating by 1.246.

Every additional percent of cocoa is predicted to result in a 4.079 increase in rating.

A chocolate bar with 0 percentage of cocoa is predicted to have a rating of 0.786.

A chocolate bar with a rating of 0 is predicted to have 78.6 percent of cocoa.

A chocolate bar with 4.079 percent of cocoa is predicted to have a rating of 0.

Every additional percent of cocoa is predicted to decrease the rating by 0.0218.

A chocolate bar with 0 percentage of cocoa is predicted to have a rating of 4.07.

Response Feedback:

Question 7

15 out of 15 points





You are a marketing analyst and are conducting a market research investigating different brands of chocolate bars. The Excel data, [flavors_of_cacao.xlsx](#) contains information on 1795 chocolate bar products. The following table summarizes the data variables:

company	Name of company
specific bean origin or bar name	Regional origin
review date	Year of review
cocoa percent	Percentage of cocoa
company location	Country where the company is located
rating	Chocolate bar rating
bean type	The type of cocoa bean
broad bean origin	Origin (country name)

You develop a regression model to see how the chocolate bar **rating** (Column G) is explained by **cocoa percent** (Column E).

Which of the following would be the correct interpretation of the slope?

Selected Answer: Every additional percent of cocoa is predicted to decrease the rating by 1.246.

Answers: Every additional percent of cocoa is predicted to decrease the rating by 0.0218.

A chocolate bar with a rating of 0 is predicted to have 78.6 percent of cocoa.

A chocolate bar with 0 percentage of cocoa is predicted to have a rating of 0.786.

A chocolate bar with a rating of 0 is predicted to have 4.079 percent of cocoa.

Every additional percent of cocoa is predicted to decrease the rating by 1.246.

A chocolate bar with 4.079 percent of cocoa is predicted to have a rating of 0.

A chocolate bar with 0 percentage of cocoa is predicted to have a rating of 4.07.

Every additional percent of cocoa is predicted to result in a 4.079 increase in rating.

Response Feedback: 😊

Question 8

15 out of 15 points



You are working for a secret government organization that investigates UFOs. You were hired because of your unique skills with dealing with data and performing its statistical analysis.

Your boss has given you secret data collected over the past century that contains over 80,000 reports of UFO

sightings. **UFO data.xlsx** (Did I mention that this is real data?!). The data contains city, state, time, description, and duration of each sighting. Of course, the best way to visually present such data to your boss is by putting it on the map! Please [save](#) the Excel file on your computer and then open it.

There are some interesting questions that you can answer by visualizing the data, such as:

- What areas of the country are most likely to have UFO sightings?
- Are there any trends in UFO sightings over time? Do they tend to be clustered or seasonal?
- Do clusters of UFO sightings correlate with landmarks, such as airports or government research centers?
- What are the most common UFO descriptions?

Use the data to create a **3D heat map** that plots the **total number of UFO sightings in the USA, by longitude/latitude**.

Based on the map, which location has had the most number of UFO sightings?

Zoom in on your map so that its scale is approximately the same as the scale of the map in the picture below. Click on the location on the map that is your answer.

Selected Answer: 557, 151

Correct Answer: Top Left Coordinates (15, 20) Bottom Right Coordinates (619, 391)

Instructor selection and student response



Question 9

15 out of 15 points



The Excel file **2016 primaries.xlsx** contains data relevant for the 2016 U.S. Presidential Elections, including up-to-date primary results. What business insights can you discover by mapping the data? Please [save](#) the Excel file on your computer and then open it.

Use the data to create a **3D region map** that plots the **total "votes" by state**.

Also, apply a **Filter: "Candidate" = Donald Trump**.

Based on the map, which state of the United States gave the highest number of votes to D. Trump? (Of course, every state has a different population. The map that you produce does not show the proportion of voters in each state that gave preference to this or that candidate.)

Zoom in on your map so that its scale is approximately the same as the scale of the map in the picture below. Click on the location on the map that is your answer.

Selected Answer: 80, 319

Correct Answer: Top Left Coordinates (11, 167) Bottom Right Coordinates (164, 411)

Instructor selection and student response



Response Feedback:

Wednesday, November 21, 2018 1:13:32 PM EST

← OK