

Rami El Rafee

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MY PROGRAMS

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RE

CONCEPTS

1. Video: What are Measures of Spread?

2. Video: Histograms

3. Video: Weekdays vs. Weekends: What is the Difference

4. Video: Introduction to Five Number Summary

5. Quiz: 5 Number Summary Practice

6. Video: What if We Only Want One Number?

7. Video: Introduction to Standard Deviation and Variance

8. Video: Standard Deviation Calculation

9. Measures of Spread (Calculation and Units)

10. Text: Introduction to the Standard Deviation and Variance

RESOURCES

DATA ANALYSIS CHALLENGER

DESCRIPTIVE STATISTICS

Descriptive Statistics II

SEND PAGE FEEDBACK

Do you know your 5 Number Summary?

Notice the dataset for the next 4 problems all use the same dataset.

What is the range associated with the following dataset?

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

11

RESET QUIZ

Provided the values below, what is the value of the first quartile?

Remember the first quartile is the median number (middle number) of the first half of the numbers when put in ranked order. Ranked order for this dataset is 1,1,2,3,4...

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

2

RESET QUIZ

2

RESET QUIZ

Provided the values below, what is the value of the third quartile?

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

8

RESET QUIZ

Provided the values below, what is the value of the median? (this is the same as the second quartile)

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

4.5

RESET QUIZ

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RESOURCES

2

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5, 10, 3, 8, 12, 4, 1, 2, 8

5

RESET QUIZ

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2.5

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11

RESET QUIZ

5, 10, 3, 8, 12, 4, 1, 2, 8

2.5

RESET QUIZ

5, 10, 3, 8, 12, 4, 1, 2, 8

9

RESET QUIZ

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https://learn.udacity.com/nanodegrees/nanodegree-002/.../part4/31bd11cb-69d0-452d-994f-c354830e9a7f/lessons/b8541db1-201e-45a5-a4ae-83b03a7670e10/concepts/764wd9a7-f63d-4215-ae27-935d6d70234f

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- 11. Video: Why the Standard Deviation?
- 12. Video: Important Final Points
- 13. Advanced: Standard Deviation and Variance

RESOURCES

Establishing secure connection...

Quiz question

If we measure the variance associated with our sales in dollars for each month for 3 years, what are the units associated with the variance?

- ☐ Dollars
- ☐ Years
- ☐ Dollars per Year
- ☒ Dollars Squared
- ☐ Dollars per Month

SUBMIT

For the following set of data provide the value of the **variance**.

Remember to find the variance we first find the mean average of the values, then subtract the mean from each value, then square each of these values, then add them up, then divide by the number of values. (Round your answer to two decimal places at the end of your calculation - don't round along the way.)

1, 5, 10, 3, 8, 12, 4

13.55

RESET QUIZ

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- Personal Information
- Password
- Notifications
- Language Preference
- Linked Accounts
- Enrollments
- Logout

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RESOURCES

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For the following set of data provide the value of the **variance**.

Remember to find the variance we first find the mean average of the values, then subtract the mean from each value, then square each of these values, then add them up, then divide by the number of values. (Round your answer to two decimal places at the end of your calculation - don't round along the way.)

1, 5, 10, 3, 8, 12, 4

13.55

RESET QUIZ

For the following set of data provide the value of the **standard deviation**.

Remember the standard deviation is the square root of the variance (Round your answer to two decimal places at the end of your calculation.)

1, 5, 10, 3, 8, 12, 4

3.677

RESET QUIZ

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CONCEPTS

- 7. Video: Introduction to Standard Deviation and Variance
- 8. Video: Standard Deviation Calculation
- 9. Measures of Spread (Calculation and Units)
- 10. Text: Introduction to the Standard Deviation and Variance
- 11. Video: Why the Standard Deviation?
- 12. Video: Important Final Points
- 13. Advanced: Standard Deviation and Variance
- 14. Quiz: Applied Standard Deviation and Variance
- 15. Homework 1: Final Quiz on Measures Spread
- 16. Text: Measures of Center and Spread Summary

RESOURCES

Investment 2

12% -2% 10% 0% 7% 3%

The returns for 6 consecutive years for each investment are shown above. Use this information to answer the questions below.

QUIZ QUESTION

Using the information above, mark all of the below that are **true** statements.

☒ The risk associated with investment 1 is lower than the risk associated with Investment 2.
 ☒ The standard deviation associated with investment 1 is smaller than the standard deviation associated with Investment 2.
 ☐ Knowing the mean return amount across all the years for each investment provides us with all of the information necessary to understand which investment we should choose.

SUBMIT

QUIZ QUESTION

Based on the observed data, which of the above two investments has the best opportunity of earning more than 7%?

☐ Investment 1
 ☒ Investment 2
 ☐ Neither.

MY PROGRAMS

CONCEPTS

- and Variance
- 14. Quiz: Applied Standard Deviation and Variance
- 15. Homework 1: Final Quiz on Measures Spread
- 16. Text: Measures of Center and Spread Summary
- 17. Video: Shape
- 18. Video: The Shape For Data In The World
- 19. Quiz: Shape and Outliers (What's the Impact?)
- 20. Video: Shape and Outliers
- 21. Video: Working With Outliers
- 22. Video: Working With Outliers My Advice
- 23. Quiz: Shape and Outliers (Comparing Distributions)

RESOURCES

QUIZ QUESTION

For the following dataset, match each value to the appropriate label:

15, 4, 3, 8, 15, 22, 7, 9, 2, 3, 3, 12, 6

Submit to check your answer choices!

Term	Value
n	13
median	7
first quartile	3
third quartile	13.5
mean	8.4
mode	3

SUBMIT

MY PROGRAMS

CONCEPTS

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RESOURCES

QUIZ QUESTION

For the following dataset, match each value to the appropriate label:

15, 4, 3, 8, 15, 22, 7, 9, 2, 3, 3, 12, 6

☒ These are the correct matches.

Term	Value
interquartile range	10.5
range	20
variance	33.9
standard deviation	5.8
minimum	2
maximum	22

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CONCEPTS

23. Quiz: Shape and Outliers (Comparing Distributions)

24. Quiz: Shape and Outliers (Visuals)

25. Quiz: Shape and Outliers (Final Quiz)

26. Text + Quiz: What Measures of Spread & Center Should We Use?

27. Text: Descriptive Statistics Summary

28. Video: Descriptive vs. Inferential Statistics

29. Quiz: Descriptive vs. Inferential (Bagels)

30. Quiz: Descriptive vs. Inferential (Udacity Students)

31. Text: Descriptive vs. Inferential Summary

32. Video: Summary

RESOURCES

What is the name of the above plot?

☐ Bar Chart

☐ Box Plot

☒ Histogram

☐ Pie Chart

SUBMIT

QUIZ QUESTION

What is the shape of the above distribution?

☐ Right skewed

☐ Left skewed

☐ Symmetric

☒ Bi-modal

SUBMIT

CONCEPTS

23. Quiz: Shape and Outliers (Comparing Distributions)

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RESOURCES

☐ Bar Chart

☒ Box Plot

☐ Histogram

☐ Pie Chart

SUBMIT

QUIZ QUESTION

What is the shape of the distribution?

☐ Right skewed

☒ Left skewed

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SUBMIT

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RESOURCES

☒ Left skewed

☐ Symmetric

☐ Bi-modal

SUBMIT

QUIZ QUESTION

Select the true statement for the box-plot above.

☒ The mean is less than the median.

☐ The mean is greater than the median.

☐ The mean is approximately equal to the median.

☐ It is impossible to tell the relationship between the mean and median.

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Consider we own a bagel shop. We know that the average diameter of all of our bagels is 5.5 inches. A competitor moves right next door to us! We are interested in if they make larger bagels than us. We obtain 100 of their bagels, and we find they have an average diameter of 6 inches.

✓ These are the correct matches.

Description	Term
5.5 inches	Parameter
6 inches	Statistic
All the bagels at our bagel shop.	Population
All the bagels at our competitor's bagel shop.	Population
The 100 bagels from the competitor's bagel shop.	Sample

QUIZ QUESTION

For the below, match the term to the correct description.

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These are the correct matches.

Description	Term
A numeric summary of a sample.	Statistic
A numeric summary of a population.	Parameter
Drawing conclusions regarding a population using information from a sample.	Inference
Drawing conclusions regarding a sample using information from a population.	None
A subset of a population.	Sample
Our entire group of interest.	Population
Frequently we do not know this value, so we must try and estimate.	Parameter

PREVIOUS

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RESOURCES

QUIZ QUESTION

Identify the population, parameter, sample, and statistic for the below scenario:
Consider we are interested in the average number of hours slept by all Udacity students (100,000 students). I send an email to all Udacity students, but I only receive 5,000 response emails. The average amount of sleep of those that responded was 6.8 hours of sleep.

These are the correct matches.

Term	Description
Population	All Udacity students
Parameter	We cannot know for sure.
Sample	5,000 Udacity students
Statistic	6.8 hours of sleep

PREVIOUS

NEXT