

DS-11/22 Statistics Session-1

DS/11 Statistics Session-1

Training Clarusway

Pear Deck - April 18, 2022 at 2:07PM

Part 1 - Summary

Use this space to summarize your thoughts on the lesson

Part 2 - Responses

Slide 1



Use this space to take notes:

Slide 2	Your Response
<p>Did you finish Statistics (Data Types & Patterns & Graphs) pre-class activity?</p>  <p><small>Students choose an option</small></p> <p>Pear Deck Interactive Slide <small>Do not remove this bar</small></p>	<p>You Chose</p> <ul style="list-style-type: none"> • I finished completely. <p>Other Choices</p> <ul style="list-style-type: none"> • I finished partially. • No, I didn't finish.

Use this space to take notes:

Slide 3



SUCCESS NEEDS
PREPARATION

CLARUSWAY®
www.clarusway.com

3

Use this space to take notes:

Slide 4



CLARUSWAY®
way to motivate yourself

Use this space to take notes:

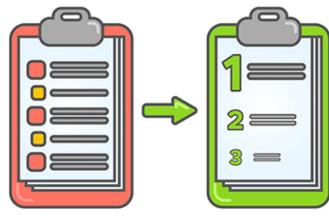
Slide 5



CLARUSWAY®
way to motivate yourself

Use this space to take notes:

Slide 6



Prioritize

CLARUSWAY®
way to success yourself

8

Use this space to take notes:

Slide 7



CLARUSWAY®
way to success yourself

9

Use this space to take notes:

Slide 8

Scope of the Course ➤

- ▶ Data Types & Patterns & Graphs
- ▶ Central Tendency & Dispersion
- ▶ Correlation & Normal Distribution
- ▶ Central Limit Theorem and Confidence Intervals
- ▶ Basic Concepts of Hypothesis Testing
- ▶ Hypothesis Tests about Means



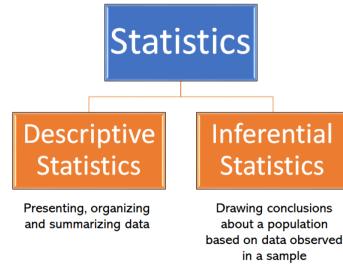
CLARUSWAY®
WAY TO REINVENT YOURSELF

8

Use this space to take notes:

Slide 9

▶ Descriptive vs Inferential Statistics ➤



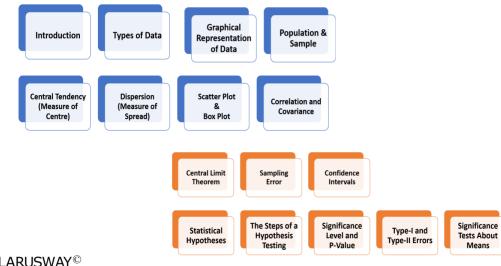
CLARUSWAY®
WAY TO REINVENT YOURSELF

9

Use this space to take notes:

Slide 10

Course Content



CLARUSWAY®
WAY TO REINVENT YOURSELF

10

Use this space to take notes:

Slide 11

Sources

Clarusway LMS (Pre-class Activities)

- Content
- Let's Practice, Check Yourself
- Assignments



▶



Textbooks

- Brownlee J., Statistical Methods for Machine Learning.
- Rumsey, D. J. (2010). Statistics essentials for dummies. John Wiley & Sons.
- Wackerly, D., Mendenhall, W., & Scheaffer, R. L. (2014). Mathematical statistics with applications. Cengage Learning



▶

WWWS

- <http://onlinestatbook.com/>
- <https://www.youtube.com/c/joshstarmer>
- <https://www.khanacademy.org/math/statistics-probability>

CLARUSWAY®
WAY TO REINVENT YOURSELF

▶

Link(s) on this slide:

- <http://onlinestatbook.com/>
- <https://www.youtube.com/c/joshstarmer>
- <https://www.khanacademy.org/math/statistics-probability>

Use this space to take notes:

Slide 12

Table of Contents ➤

- ▶ What is "Statistics"?
- ▶ Why Should You Learn Statistics?
- ▶ Stats with Python
- ▶ Types of Data
- ▶ Graphic Representation of Data
- ▶ Population & Sample
- ▶ Sampling Techniques

CLARUSWAY®
WAY TO REINVENT YOURSELF

12

Use this space to take notes:

Slide 13 ➤

1

What is "Statistics"?

CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 14

Your Response

► What is "Statistics"?



Statistics is the grammar of science.

-- Karl Pearson



STUDENTS, write your response!

Peer Deck Interactive Slide
Do not remove this bar

Use this space to take notes:

Slide 15

► What is "Statistics"?

Most fundamentally, **statistics** is all about data.

- COLLECT
- CHARACTERIZE
- ANALYZE
- PRESENT

CLARUSWAY®
© 2018 CLARUSWAY, INC.



Use this space to take notes:

Slide 16

► What is "Statistics"?



WIKIPEDIA



Merriam-Webster
Collegiate Dictionary



CLARUSWAY®
data to empower business

Statistics is the discipline that concerns the collection, organization, analysis, interpretation and presentation of data.

A branch of mathematics dealing with the collection, analysis, interpretation, and presentation of masses of numerical data.

All the authors imply that statistics is a theory of information, with inference making as its objective.

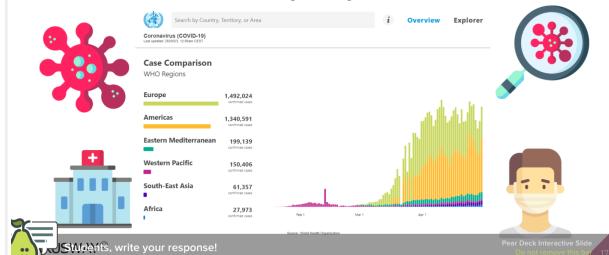
18

Use this space to take notes:

Slide 17

Your Response

► What are some examples of statistics in everyday life?



Use this space to take notes:

Slide 18

► What are some examples of statistics in everyday life?



CLARUSWAY®
aim to achieve success

- Weather Forecasts
- Stock Market
- Predicting Disease
- Medical Studies
- Insurance
- Consumer Goods



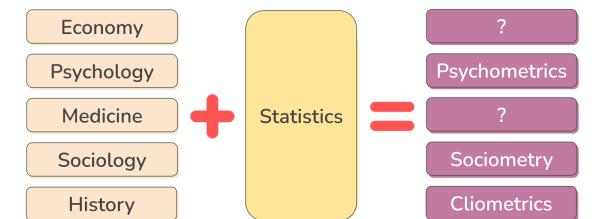
18

Use this space to take notes:

Slide 19

Your Response

► Relation of Statistics with other Sciences ➤

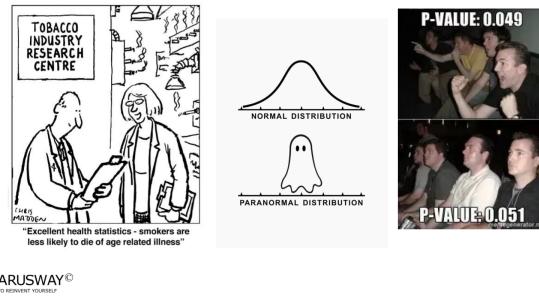


Answer 1:
econometrist

Use this space to take notes:

Slide 20

▶ Funny Statistics



CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 21

2 ▶ Why Should You Learn Statistics?



CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 22

► Why "Statistics"?

- Should I run for the bus?
- Which stock should I buy?
- Which products should I list in Website?
- Should I take this medication?
- Should I have my children vaccinated?

CLARUSWAY®
data to empower yourself



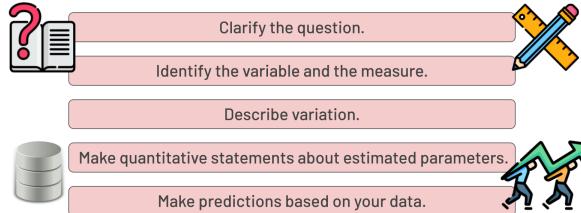
If you don't take this
medication, there is a
95% chance that you
will die.

22

Use this space to take notes:

Slide 23

► Statistical Process



CLARUSWAY®
data to empower yourself

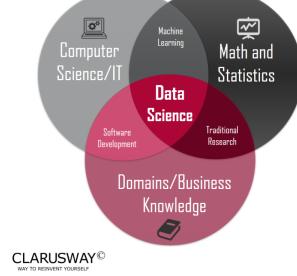
23

Use this space to take notes:

Slide 24

► Data Science vs. Statistics

“ A Data Scientist is one who knows more statistics than a programmer and more programming than a statistician ”



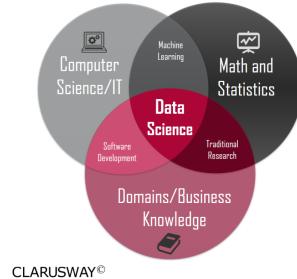
24

Use this space to take notes:

Slide 25

► Data Science vs. Statistics

- A data scientist makes hundreds of decisions every day.
- Many of these decisions require a strong foundation in math and statistics.
- Data science requires descriptive statistics and probability theory, at a minimum.



25

Use this space to take notes:

Slide 26



3 Stats with Python

CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 27

▶ Stats with Python



CLARUSWAY®
WAY TO REINVENT YOURSELF

27

Use this space to take notes:

Slide 28



4

Types of Data

CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 29

► What is Data?



Data are characteristics or information, usually numerical, that are collected through observation.

CLARUSWAY®
WAY TO REINVENT YOURSELF

29

Use this space to take notes:

Slide 30

► What is Data?

The screenshot shows a Microsoft Excel spreadsheet titled "Tutorial 18 - Nested IF V2 Date0.xlsx - Microsoft Excel". The table has the following structure:

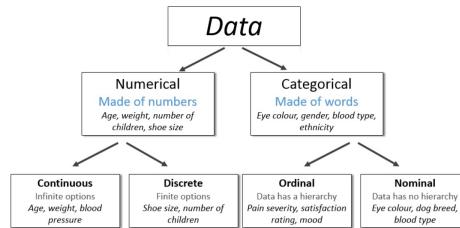
A1	B1	C1	D1	E1	F1	G1
1	Fred's Classic Movie Events					
2	Venue	Fred's Movie Emporium		Today	13/12/2012	
3	Capacity	150				
6	Date	Movie	Tickets Sold	% of Capacity Sold	Tickets Remaining	% of Tickets to Sell
7	Wednesday, 11 May 2011	Grease	60	33%	100	67%
8	Sunday, 15 May 2011	Java	150	100%	0	0%
9	Monday, 23 May 2011	Citizen Kane	105	70%	45	30%
10	Wednesday, 01 Jun 2011	The Wizard of Oz	150	100%	0	0%
11	Friday, 10 Jun 2011	Singin' In The Rain	85	57%	65	43%
12						

30

Use this space to take notes:

Slide 31

► Types of Data



31

Use this space to take notes:

Slide 32

► Numerical Data

Continuous Data

- ▶ Continuous data can have an infinite continuum of possible values.
 - ▷ height
 - ▷ weight
 - ▷ age
 - ▷ the amount of time it takes to complete an assignment

CLARUSWAY®
www.clarusway.com

Discrete Data

- ▶ Any variable with a finite number of possible values is discrete.
 - ▷ the number of pets in a household
 - ▷ the number of children in a family
 - ▷ the number of foreign languages in which a person is fluent

32

Use this space to take notes:

Slide 33

► Categorical Data

Ordinal Data

- ▶ Ordinal data requires an order
 - ▷ small, medium, large
 - ▷ good, average, poor
 - ▷ strongly agree, agree, disagree
- ▶ The distance between ordered categories is not measurable.
- ▶ No arithmetic can be done with the ordinal data as they show sequence only.

CLARUSWAY®
www.clarusway.com

Nominal Data

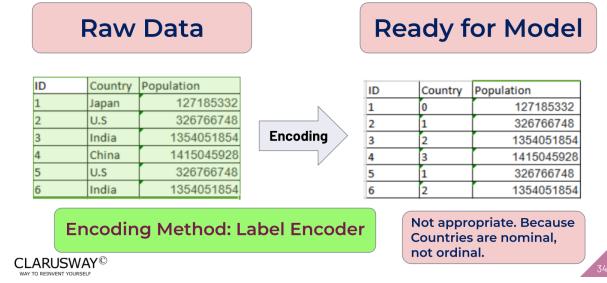
- ▶ Nominal data simply names something without an order being given.
 - ▷ employee's status
 - ▷ color
 - ▷ race
- ▶ Data obtained on nominal scale is in terms of frequency.

33

Use this space to take notes:

Slide 34

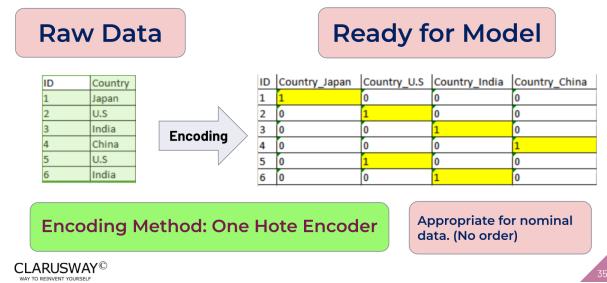
► Categorical Data in ML Models ➔



Use this space to take notes:

Slide 35

► Categorical Data in ML Models ➔



Use this space to take notes:

Slide 36

Your Response

Which variable is categorical?

Height

Race

 Students choose an option

Pear Deck Interactive Slide
Do not remove this bar

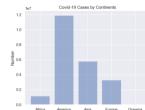
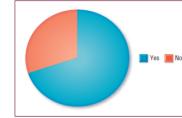
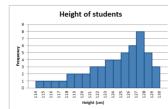
Use this space to take notes:

Slide 37

5

Graphical Representation of Data

CLARUSWAY®
BORN TO INNOVATE YOURSELF



Use this space to take notes:

Slide 38

► Data Patterns in Statistics

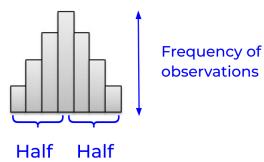
Center

Spread

Shape

Unusual Features

The center of a distribution, graphically, is located at the median of the distribution.



CLARUSWAY®
data to drive better business

38

Use this space to take notes:

Slide 39

► Data Patterns in Statistics

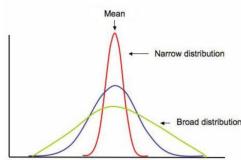
Center

Spread

Shape

Unusual Features

The spread of a distribution refers to the variation of the data.



CLARUSWAY®
data to drive better business

39

Use this space to take notes:

Slide 40

► Data Patterns in Statistics

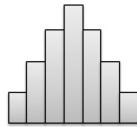
Center

Spread

Shape

Unusual Features

Symmetry - In symmetric distribution, graph can be divided at the center in such a way that each half is a mirror image of the other.



CLARUSWAY®
www.clarusway.com

40

Use this space to take notes:

Slide 41

► Data Patterns in Statistics

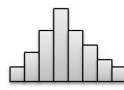
Center

Spread

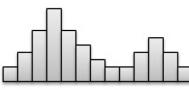
Shape

Unusual Features

Number of peaks. - Distributions with one or multiple peaks.
Distribution with one clear peak is known as unimodal, and distribution with two clear peaks is called bimodal.



CLARUSWAY®
www.clarusway.com



Bimodal

41

Use this space to take notes:

Slide 42

► Data Patterns in Statistics

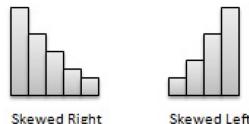
Center

Spread

Shape

Unusual Features

Skewness - Some distributions may have multiple observations on one side of the graph than the other side.



42

Use this space to take notes:

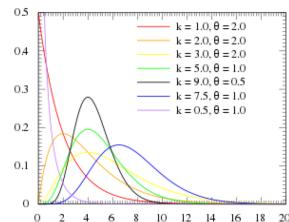
Slide 43

Your Response

► Let's Practice



Is this distribution skewed left or skewed right?



Peer Deck Interactive Slides

Use this space to take notes:

Slide 44

Your Response

A graph showing six probability density functions (PDFs) for different parameter values of k and θ . The x-axis ranges from 0 to 20, and the y-axis ranges from 0 to 0.5. The curves are as follows:

- Red curve: $k = 1.0, \theta = 2.0$
- Orange curve: $k = 2.0, \theta = 2.0$
- Yellow curve: $k = 3.0, \theta = 2.0$
- Green curve: $k = 5.0, \theta = 1.0$
- Black curve: $k = 9.0, \theta = 0.5$
- Blue curve: $k = 7.5, \theta = 1.0$
- Purple curve: $k = 0.5, \theta = 1.0$

The distribution becomes more spread out as k decreases or θ increases.

Use this space to take notes:

Slide 45

Your Response

▶ Let's Practice Answer

A ➔

Skewed right

Gamma

The graph displays seven curves representing different parameter sets for the Gamma distribution:

- $k = 1.0, \theta = 2.0$ (red)
- $k = 2.0, \theta = 2.0$ (orange)
- $k = 3.0, \theta = 2.0$ (yellow)
- $k = 5.0, \theta = 1.0$ (green)
- $k = 9.0, \theta = 0.5$ (black)
- $k = 7.5, \theta = 1.0$ (blue)
- $k = 0.5, \theta = 1.0$ (purple)

Pear Deck Interactive Slide
Do not remove this slide

Use this space to take notes:

Slide 46

► Data Patterns in Statistics

Center

Spread

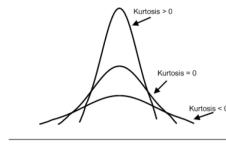
Shape

Unusual Features

Kurtosis - Some distributions may have multiple observations on one side of the graph than the other side.

CLARUSWAY®
data to drive better business™

48



Use this space to take notes:

Slide 47

► Data Patterns in Statistics

Center

Spread

Shape

Unusual Features

Uniform - When the set of observations has no peak and have data equally spread across the range of the distribution, then the distribution is called a uniform distribution.

CLARUSWAY®
data to drive better business™



Uniform

47

Use this space to take notes:

Slide 48

► Data Patterns in Statistics

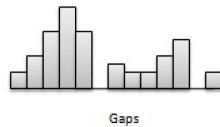
Center

Spread

Shape

Unusual Features

Gaps - Gaps points to areas of a distribution having no observations.



CLARUSWAY®
data to drive better business™

48

Use this space to take notes:

Slide 49

► Data Patterns in Statistics

Center

Spread

Shape

Unusual Features

Outliers - Distributions may be characterized by extreme values that differ greatly from the other set of observation data.



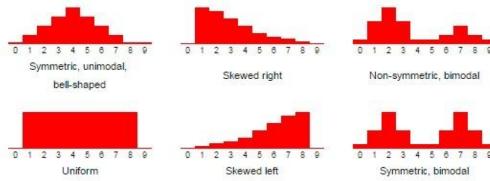
CLARUSWAY®
data to drive better business™

49

Use this space to take notes:

Slide 50

► Data Patterns in Statistics



CLARUSWAY®
www.clarusway.com

50

Use this space to take notes:

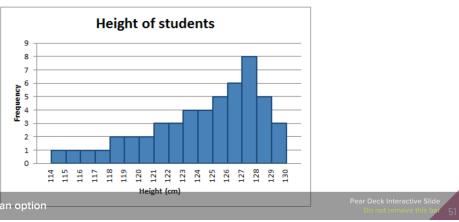
Slide 51

Your Response

► Let's Practice



Which of the following statements is true about the figure?



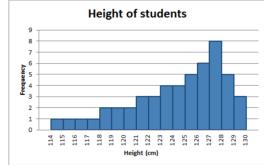
Use this space to take notes:

Slide 52

► Let's Practice Answer

A ➤

Which of the following statements is true about the figure?



C: The distribution is left-skewed with no outliers.

CLARUSWAY®
data to empower humanity

52

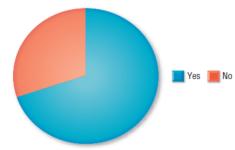
Use this space to take notes:

Slide 53

► Pie Charts ➤

- ▶ Often used with nominal and ordinal variables.
- ▶ Circle cut into "pie slices" that add up to 100%.
- ▶ Each pie slice represents an attribute for the variable.

Did you find the course challenging?



CLARUSWAY®
data to empower humanity

53

Use this space to take notes:

Slide 54

► Pie Charts



The following table shows the numbers of hours spent by a child on different events on a working day.

Represent the adjoining information on a pie chart

Activity	No. of Hours
School	6
Sleep	8
Playing	2
Study	4
T. V.	1
Others	3

CLARUSWAY®
Solve to Involve Yourself

54

Use this space to take notes:

Slide 55

► Pie Charts



The central angles for various observations can be calculated as:

Activity	No. of Hours	Measure of central angle
School	6	$(\frac{6}{24} \times 360)^\circ = 90^\circ$
Sleep	8	$(\frac{8}{24} \times 360)^\circ = 120^\circ$
Playing	2	$(\frac{2}{24} \times 360)^\circ = 30^\circ$
Study	4	$(\frac{4}{24} \times 360)^\circ = 60^\circ$
T. V.	1	$(\frac{1}{24} \times 360)^\circ = 15^\circ$
Others	3	$(\frac{3}{24} \times 360)^\circ = 45^\circ$

CLARUSWAY®
Solve to Involve Yourself

55

Use this space to take notes:

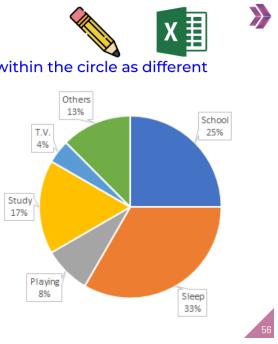
Slide 56

► Pie Charts

Now, we shall represent these angles within the circle as different sectors.

Activity	No. of Hours
School	6
Sleep	8
Playing	2
Study	4
T. V.	1
Others	3

CLARUSWAY®
www.clarusway.com



58

Use this space to take notes:

Slide 57

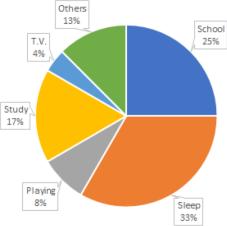
Your Response

► Let's Practice



This pie chart represents the numbers of hours spent by a child on different events on a working day.

How many hours does this child sleep?



Students, enter a number!

Pear Deck Interactive Slides

Use this space to take notes:

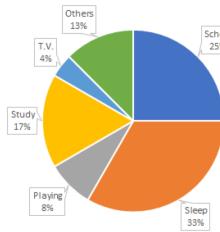
Slide 58

► Let's Practice Answer

A ➤

How many hours does this child sleep?

$$24 * 0.33 = 8 \text{ hours}$$



CLARUSWAY®
data to empower business

58

Use this space to take notes:

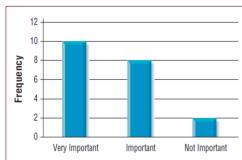
Slide 59

► Bar Charts

➤

- ▶ Often used with nominal and ordinal variables.
- ▶ A series of bars represent the different attributes of a variable.
- ▶ The height of each bar reflects frequencies for each attribute.

How important is *Data Science* to you?



CLARUSWAY®
data to empower business

59

Use this space to take notes:

Slide 60

► Bar Charts

The following table shows the numbers of Covid-19 data for continents.

Represent the adjoining information on a bar chart

continent	cases	deaths
Africa	1119579	26260
America	11698368	427207
Asia	5606210	122034
Europe	3239237	205144
Oceania	25742	471

CLARUSWAY®
data by CLARUSWAY Research

60

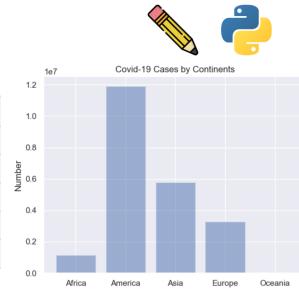
Use this space to take notes:

Slide 61

► Bar Charts

continent	cases	deaths
Africa	1119579	26260
America	11698368	427207
Asia	5606210	122034
Europe	3239237	205144
Oceania	25742	471

CLARUSWAY®
data by CLARUSWAY Research



61

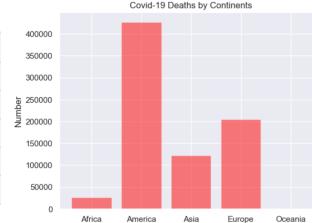
Use this space to take notes:

Slide 62

► Bar Charts



continent	cases	deaths
Africa	1119579	26260
America	11698368	427207
Asia	5606210	122034
Europe	3239237	205144
Oceania	25742	471



CLARUSWAY®
data to knowledge™

62

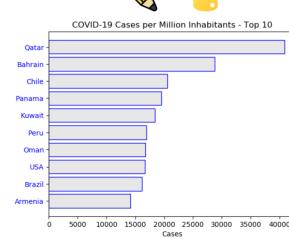
Use this space to take notes:

Slide 63

► Bar Charts



countriesAndTerritories	cases	deaths	popData2019	casesPer1M
Qatar	115681	193	2832071.0	40839.724710
Bahrain	47185	175	1641164.0	28750.935312
Chile	388855	10546	189520315.0	20517.849402
Panama	82790	1809	4246440.0	19496.331044
Kuwait	77470	505	4207077.0	18414.210151
Peru	549321	26558	32510482.0	16899.745423
Oman	83418	597	4974992.0	16767.464149
USA	5482416	171821	329054917.0	16660.591016
Brazil	3407354	109888	211049519.0	16144.808177
Armenia	41846	832	2957728.0	14148.021725



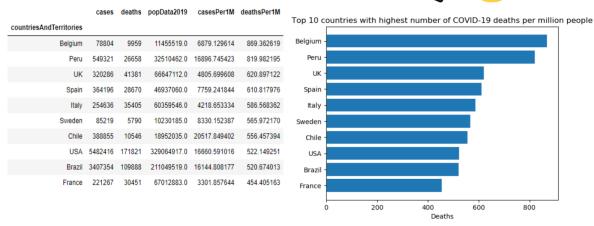
CLARUSWAY®
data to knowledge™

63

Use this space to take notes:

Slide 64

► Bar Charts



CLARUSWAY®
data to empower business

64

Use this space to take notes:

Slide 65

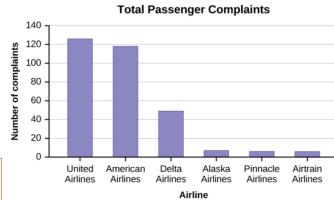
Your Response

► Let's Practice



The graph shows the number of complaints for six different airlines as reported to the US Department of Transportation in February 2013. Alaska, Pinnacle, and Airtran Airlines have far fewer complaints reported than American, Delta, and United.

Can we conclude that American, Delta, and United are the worst airline carriers since they have the most complaints?



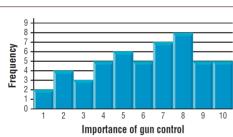
Use this space to take notes:

Slide 66

▶ Histograms

- ▶ Used with interval/ratio variables.
- ▶ Represent the frequency of each attribute for a variable.
- ▶ Good overview of the distribution of your data

On a Scale of 1 to 10,
How Important Is Gun
Control to You? (N = 50)



CLARUSWAY®
data to drive better decisions

68

Use this space to take notes:

Slide 67

▶ Histograms

1 Divide the range of the data into intervals of equal width. For a discrete variable with few values, use the actual possible values.



2 Count the number of observations (the frequency) in each interval, forming a frequency table.



3 Draw a bar over each value or interval with height equal to its frequency (or percentage), values of which are marked on the vertical axis.



CLARUSWAY®
data to drive better decisions

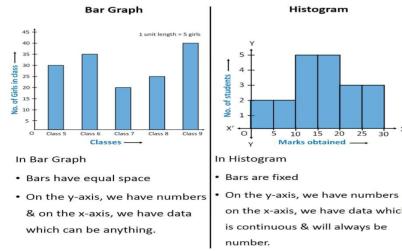
67

Use this space to take notes:

Slide 68

▶ Histograms vs Bar charts

Difference between Bar Graph & Histogram teachoo.com



CLARUSWAY®
www.clarusway.com



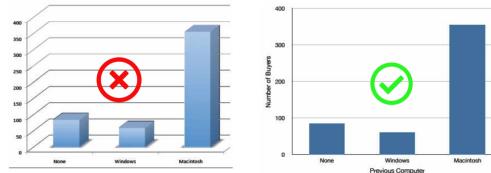
68

Use this space to take notes:

Slide 69

▶ Graphical Mistakes

Don't get fancy!



3-d bar charts are not as effective as their 2-d counterparts.

CLARUSWAY®
www.clarusway.com



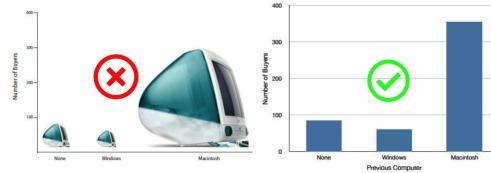
69

Use this space to take notes:

Slide 70

► Graphical Mistakes

Don't get fancy!



It is misleading, because the viewer's attention will be captured by areas.

CLARUSWAY®
use to motivate yourself

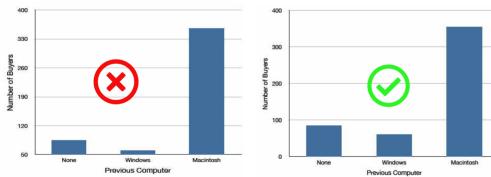
70

Use this space to take notes:

Slide 71

► Graphical Mistakes

Don't get fancy!



Another distortion is setting the baseline to a value other than zero.

CLARUSWAY®
use to motivate yourself

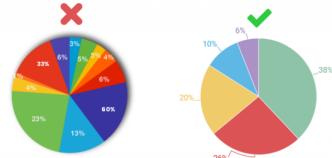
71

Use this space to take notes:

Slide 72

► Graphical Mistakes

Simplicity is Key



There is nothing worse than a pie chart with too many slices.

CLARUSWAY®
www.clarusway.com

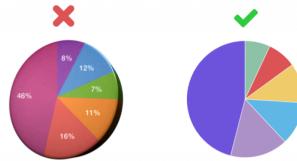
72

Use this space to take notes:

Slide 73

► Graphical Mistakes

Variety of Colors



Don't pick colors that are the same or too similar.

CLARUSWAY®
www.clarusway.com

73

Use this space to take notes:

Slide 74



6

Populations & Samples

CLARUSWAY®
WAY TO REINVENT YOURSELF

Use this space to take notes:

Slide 75

▶ Populations



The study of statistics revolves around the study of data sets.

Populations



Include each element from the set of observations that can be made.

CLARUSWAY®
WAY TO REINVENT YOURSELF

75



Use this space to take notes:

Slide 76

► Samples

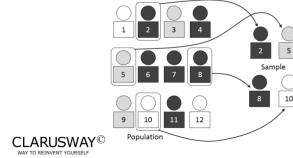


Populations and samples are data sets.

Samples



Include one or more observations from the population.



The elements of a sample are known as sample points, or observations.

78

Use this space to take notes:

Slide 77

► Parameters & Statistics



Population attributes



Parameters

Sample attributes



Statistics

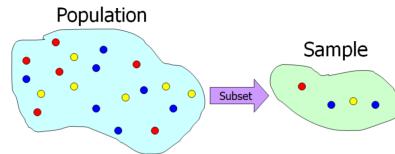
Sample statistics are often used to estimate population parameters

77

Use this space to take notes:

Slide 78

► Parameters & Statistics



- Populations have Parameters (like μ , σ^2 , θ , p)
- Samples have Statistics, functions of observed data, like \bar{x} , \tilde{x} , s^2 , $\hat{\theta}$, \hat{p}

CLARUSWAY®
way to reinvent yourself

78

Use this space to take notes:

Slide 79



7 ► Sampling Techniques



CLARUSWAY®
way to reinvent yourself

Use this space to take notes:

Slide 80

► Sampling Techniques



To draw valid conclusions from your results, you have to carefully decide how you will select a sample that is representative of the group as a whole.

Probability sampling

involves random selection, allowing you to make strong statistical inferences about the whole group.

Non-probability sampling

involves non-random selection based on convenience or other criteria, allowing you to easily collect data.

Use this space to take notes:

Slide 81

► Probability Sampling Methods



Probability sampling means that every member of the population has a chance of being selected.

Simple random sample

Systematic sample

Stratified sample

Cluster sample

Use this space to take notes:

Slide 82

► Simple Random Sample

In a simple random sample, every member of the population has an equal chance of being selected.

Simple random sample



CLARUSWAY®
data to drive better business™

82

Use this space to take notes:

Slide 83

► Systematic Sample

Every member of the population is listed with a number, but instead of randomly generating numbers, individuals are chosen at regular intervals.

Systematic sample



CLARUSWAY®
data to drive better business™

83

Use this space to take notes:

Slide 84

► Stratified Sample

Stratified sampling involves dividing the population into subpopulations that may differ in important ways.

Stratified sample



CLARUSWAY®
data to drive better business™

84

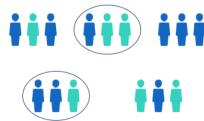
Use this space to take notes:

Slide 85

► Cluster Sample

Cluster sampling also involves dividing the population into subgroups, but each subgroup should have similar characteristics to the whole sample.

Cluster sample



CLARUSWAY®
data to drive better business™

85

Use this space to take notes:

Slide 86

► Non-probability Sampling Methods ➤

In a non-probability sample, individuals are selected based on non-random criteria, and not every individual has a chance of being included.

Convenience sample

Voluntary response sample

Purposive sample

Snowball sample

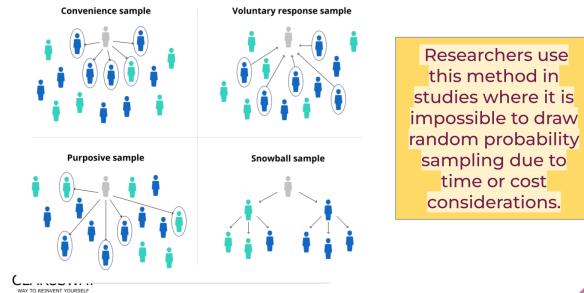
CLARUSWAY®
way to improve learning

88

Use this space to take notes:

Slide 87

► Non-probability Sampling Methods ➤



Researchers use this method in studies where it is impossible to draw random probability sampling due to time or cost considerations.

87

Use this space to take notes:

Slide 88

Your Response

▶ Let's Practice

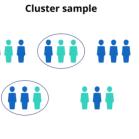


Which of the following will give a more "accurate" representation of the population from which a sample has been taken?

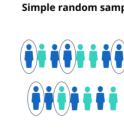
Convenience sample



Cluster sample



Simple random sample



Peer Deck Interactive Slide
Do not remove this bar

Use this space to take notes:

Slide 89

▶ Let's Practice Answer



Which of the following will give a more "accurate" representation of the population from which a sample has been taken?

A large sample based on simple random sampling



Simple random sample

CLARUSWAY®
Last to receive feedback

89

Use this space to take notes:

Slide 90

Your Response

How well did you like this lesson?



 Students, drag the icon! 

Peer Deck Interactive Slide
Do not remove this bar

Peer Deck Interactive Slide
Do not remove this bar

Use this space to take notes:

Slide 91

THANKS!

Any questions?

You can find us at:

- ▶ richard@clarusway.com
- ▶ jason@clarusway.com



CLARUSWAY®
way to innovative tomorrow

91

Use this space to take notes: