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Date

MAT 340-Statistics for Behavioral Science
Assignment #1

Directions

- Compute $\sum A_n$, $\sum B_n$, $\sum A_n B_n$, $(\sum A_n)^2$, $(\sum B_n)^2$, $\sum {A_n}^2$, $\sum {B_n}^2$ and $\sum {A_n}^2 {B_n}^2$
- Find the mean, median, mode, range, & standard deviation for A_n and B_n
- Make a stem-and-leaf plot of each set of data for A_n and B_n

1. A= {16, 22, 33, 41, 42, 41, 41, 40, 27, 18}

   B= {12.1, 9.0, 8.3, 9.7, 9.6, 8.4, 11.0, 11.8, 12.8, 12.0}

1A. Compute=321 Mean= 32.1 Mode= 41 Median=41.5 Range= 26 Standard Deviation= 10.5

1B. Compute= 104.7, Mean= 10.47, Median= 9, Mode= No mode, Range= 0.7 Standard deviation= 1.67

2. A= {41, 38, 47, 48, 22, 28, 25, 40, 30}

   B= {7, 10, 11, 12, 11, 11, 13, 8, 22}

2A. Compute= 319, Mean= 35.4, Median= 22, Mode= No mode, Range= 26, Standard deviation= 9.5

2B. Compute= 105, Mean,11.6, Median=11, Mode=11, Range= 15, Standard deviation=4.3

3. A= {1.6, 2.4, 1.8, 2.3, 1.9, 1.6, 2.0, 3.1, 3.8, 4.1, 4.0, 4.5}

   B= {10.8, 9.7, 6.1, 8.1, 8.3, 8.5, 8.5, 9.2, 9.1, 9.1, 7.2, 6.3}

3A. Compute=33.1, Mean=2.75, Median=2.35, Mode= 1.6 Range= 2.9, Standard deviation= 1.08

3B. Compute= 100.9, Mean=8.40, Median=8.5, Mode, 8.5,9.1 Range= 4.7, Standard deviation=1.36

4. A= {76, 83, 54, 43, 44, 44, 103, 99, 94, 84}

   B= {8, 12, 14, 11, 11, 15, 9, 21, 25, 27

4A. Compute= 724, Mean=72.4, Median=44, Mode=44, Range= -60 Standard Deviation= 4750.87

4B. Compute=153, Mean=15.3, Median=13, Mode=11, range= 19 Standard Deviation= 6.7

1A. Steam/ leaf

1 / 0
1 / 0
2 / 2 7
1 / 0
4 / 1 2 1 1 0

1B. Steam/Leaf

8 / .3 .4
9 / .0 .7. .6
1 / 1 .0 .8
1 / 2 .8 .0 .1

2A. Steam/Leaf

2 / 2 8 5
3 / 8
4 / 1 7 8

2B. Steam/Leaf

7 / 0
10 / 0
11 / 111
12 / 0
13 / 0
8 / 0
22 / 0

3A. Steam/Leaf

1 /6 6 8 9
2 / 4 3 0
3 / 1 8
4 / 1 0 5

3B. Steam/ Leaf

10/ 8
9/7 2 1 1
8/ 1 3 5 5
7/ 2
6/ 3

4A. Steam/Leaf

4 / 3 4 4
5 / 4
7 / 6
8 / 3 4
10 / 3
9 / 4 9

4B. Steam/ Leaf

8 / 0
12 / 0
14 / 0
1 / 1
1 / 1
15 / 0
9 / 0
2 / 1
2 / 5
2 / 7

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Multiple Choice

1. A researcher uses an anonymous survey to investigate the television-viewing habits of 100 American adolescents. The researcher plans to make an inference about the television-viewing habits of all American adolescents based on the results of the survey. The entire group of American adolescents is an example of a _____.

a. sample
b. statistic
c. population
d. parameter

2. A researcher uses an anonymous survey to investigate the social media habits of American college students. Based on the set of 300 surveys that were completed and returned, the researcher finds that students spend an average of 2 hours each day using social media. The set of 300 students who returned surveys is an example of a _____.

a. parameter
b. statistic
c. population
d. sample

3. In order for a researcher to obtain a random sample, they need to specifically do which of the following things?

a. rule out confounding variables
b. ensure that each person in the population has an equal chance of being selected for the sample
c. make certain that results are valid
d. make sure that each participant has an equal chance of being assigned to each experimental condition

4. In contrast to a datum, which of the following descriptions is most consistent with the concept of data?

a. the mean average of 15 participants' individual scores on a problem-solving task
b. the percentile that the score of 1 participant on a problem-solving task falls into
c. the individual scores of 15 participants on a problem-solving task
d. the individual score of 1 participant on a problem-solving task