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Primary Research Question

How many letters long is the typical UT student's name? How does our estimate change as we increase the size of our sample?

Conduct the Analysis in R

1. Type or copy the script from the the Prepare for the Analysis section into the Script window of R.
2. Select the portion of the code you wish to run, then press "ctrl+ enter."
3. Output can be found in the Console window.

(2/2 points)
Population Parameters

1a) What is the average name length, in number of letters, for all of the students in the population? (Round to 2 decimal

places.)

5.97

5.97

Answer: 5.97

1b) By how many letters, on average, do names vary from the mean? (Round to 2 decimal places.)

1.49

1.49

Answer: 1.49

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

(2/2 points)

2) In this lab, each time we sampled from our population we kept the _____ the same at 1,000, but we increased the _____ from 5 to 25.

number of samples   number of samples

sample size   sample size

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

(3/3 points)

Observing the Sampling Distributions

3a) The mean was _____ for all three sampling distributions.

about the same   about the same

3b) The size of the standard error _____ as the sample size increased from 5 to 25.

decreased   decreased

3c) The distributions became more and more _____ as the sample size increased.

normal   normal

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

(4/4 points)

According to the **Central Limit Theorem:**

4a) What is the **mean** of the sampling distribution (for n=5, 15, or 25)? (Round to 2 decimal places)

5.97

5.97

Answer: 5.97

4b) What is the **standard error** of the sampling distribution for n=5?

.669   .669

4c) What is the **standard error** of the sampling distribution for n=15?

.386   .386

4d) What is the **standard error** of the sampling distribution for n=25?

.299   .299

| Final Check | Save | Hide Answer | *You have used 1 of 2 submissions* |

(1/1 point)

5) Were the results of the simulations **consistent** with what the CLT predicted?

○ No

◉ Yes ✔

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Hide Answer   *You have used 2 of 2 submissions*

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