



PES UNIVERSITY, Bangalore

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Department of Computer Science & Engineering

Statistics for Data Science

Assignment – Large Sample Tests for a Population Mean

For the United States, the mean monthly Internet bill is \$32.79 per household (CNBC, January 18, 2006). A sample of 50 households in a southern state showed a sample mean of \$30.63. Use a population standard deviation of $\sigma = \$5.60$.

- a. Formulate hypotheses for a test to determine whether the sample data support the conclusion that the mean monthly Internet bill in the southern state is less than the national mean of \$32.79.
- b. What is the value of the test statistic?
- c. What is the p -value?
- d. At $\alpha = .01$, what is your conclusion?