Q. Suppose the manufacturer claims that the mean lifetime of a ball bearing is 10000hours. The auditing team stated that the mean lifetime is less than what is claimed. On the basis of a randomly chosen sample of 50 ball bearings as given in the dataset, at 0.05 significance level, can we reject the claim of the manufacturer? What will be your interpretation if the significance level is made as 0.01?

The nutrition label on a bag of potato chips says that a one ounce (28 gram) serving of potato chips has 130 calories and contains ten grams of fat, with three grams of saturated fat. A random sample of 35 bags yielded a sample mean of 134 calories with a standard deviation of 17 calories. Is there evidence that the nutrition label does not provide an accurate measure of calories in the bags of potato chips?

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Homework:Twitter users get at least some news on Twitter.40. The standard error for this estimate was 2.4%, and a normal distribution may be used to model the sample proportion. Construct a 99% confidence interval for the fraction of U.S. adult Twitter users who get some news on Twitter, and interpret the confidence interval in context.

Ex2:Create a 99% confidence interval for the average days active per week of all VIT students using vit\_csb sample. The point estimate is 3.75 and SE is 0.26.

Ex3:A sample of 50 college students were asked, how many course projects they have done on their own so far. The students in the sample had an average of 3.2 projects with a SD of 1.74. Estimate the true average number of projects based on this sample, using a 95% Confidence Interval

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Ex4: In 2013, the Pew Research Foundation reported that “45% of U.S. adults report that they live with one or more chronic conditions”. However, this value was based on a sample, so it may not be a perfect estimate for the population parameter of interest on its own. The study reported a standard error of about 1.2%, and a normal model may reasonably be used in this setting. Create a 95% confidence interval for the proportion of U.S. adults who live with one or more chronic conditions. Also inte

interpret the confidence interval in the context of the study.