Lab Session #13

JUNE 04, 2020

TESTING VARIANCES, PROPORTIONS AND COMPREHENSIVE EXAMPLE

Problem 1

The National Sleep foundation was interested to know if people over the age of 30 snore more than those under 30 years of age. They asked 184 people under the age of 30 and found that 48 of those individuals snored. They also asked 811 people over 30 years of age and found that 317 of those individuals snored. Perform this hypothesis test at a significance level of 0.05. What is your conclusion?

Problem 2

Is it better to listen to Mozart music over rap music when studying? In a study done on statistics students, 29 of them were randomly assigned to listen to rap music and 20 were randomly assigned to listen to Mozart. Students listened to their assigned music while attempting to memorize objects pictured on a page. They were then asked to list all of the objects they could remember. Summary information on number of objects remembered is shown below:

	n	Mean	St Dev
Rap:	29	10.72	3.99
Mozart:	20	10	3.19

Perform the correct hypothesis at the 0.05 level of significance.

Temperatures

In Europe, a random sample of 12 cities was investigated to estimate the average difference in high temperature between January and July. A subset of the data is shown below:

City	Jan	July
Vienna	34	75
Rome	54	88

Use the correct method to find a 90% confidence interval for the mean difference in temperature between summer and winter in Europe.

	Mean	St Dev
Jan:	40.58	9.11
July:	77.42	7.98
Difference:	36.83	8.66

Source: DeVeaux, Velleman, Bock (2005)