



STAT292 STATISTICS

HOMEWORK 2

Confidence Intervals and Hypothesis Tests

- 1) In 1897, legislature was introduced in Indiana which would make 3.2 the official value of π for the State. 25 random values are generated by using a code for π .
 - a) Test whether the claim is true, by using the data given in the excel file “pi_data-05” at significance level 0.05.
 - b) Estimate 95% confidence interval of π value.

- 2) In automobile manufacture, the manager claims that new engines release less carbon dioxide in air than standard engines. For this aim, 10 standard engines and 10 new engines have been controlled and their carbon emissions values are given in excel file “engine_data-05” .
 - a) Test whether the claim is true at significance level 0.05.
 - b) Estimate 95% confidence interval of the difference between the standard and new engines carbon emissions means.

Take the data with respect to your number in class list

Construct hypotheses

Get SPSS output of the data

Explain all findings and make comments for all hypotheses and confidence intervals

Due to 25 May 2020

Note: P-value (two tailed hyp.) is compared with α level.