FUNDAMENTALS OF ENGINEERING STATISTICAL ANALYSIS

ISE/DSA 5013

Assignment 8

Show your work for calculation problems. You will receive no credit if you only provide the answer. *As with all homework this semester, spend time to be neat and organized. Any disorganized submissions are subject to a zero grade.*

Problem 1

A study of the surface roughness of coated interior pipe used in oil fields resulted in the data below (measurements in micrometers). Conduct a nonparametric test to determine whether the median surface roughness of coated interior pipe differs from 2 micrometers. Test with 95% confidence.

1.72	2.50	2.16	2.13	1.06	2.24	2.31	2.03	1.09	1.40
2.57	2.64	1.26	2.05	1.19	2.13	1.27	1.51	2.41	1.95

Problem 2

You're looking into two manufacturers (A and B) from which to purchase a large number of paving slabs for a large-scale construction project. You may use one manufacturer as a backup if necessary, but only if there's no significant difference in the weights of their paving slabs. Formulate and draw conclusions with α = 0.01 about a set of hypotheses using a nonparametric test. Use the data in the Assignment 8 spreadsheet.