

Assignment #3: Tables, Descriptive Statistics, Histograms & Bell Curves

Test scores are provided for two tests taken by students in one course and the data (rows listing first name, score in Test #1, score in Test #2) are provided as a DOCX file online.

(a) Create a Data Table in Excel. Organize the table by alphabetizing the order variable (the names) using the “sort” function in Excel. Include a table title and table column headers.

(b) Using Excel, compute the following descriptive statistics for both sets of the legitimate variables (test scores): Count, average, standard deviation, minimum, maximum, median, and mode. These statistical data should appear in the Table below the data rows.

(c) Using Excel, create one marked scatter plot that shows the data of Tests #1 (red squares) and #2 (blue triangles). Include horizontal lines at the respective average value and using the appropriate color. Do the data clump?

(d) Create histograms for Tests #1 and #2. Full range of possible values, bin range ≥ 3 , no gaps.

(e) Compute values of the functions $f(x) = (2\pi\sigma^2)^{-0.5} \exp(-(x-a)^2/2\sigma^2)$ using the averages a and standard deviations σ for Tests #1 and #2 and create unmarked line plots of the functions for $0 \leq x \leq 100$ together in one graph. Are the test score distributions well described by a normal distribution?

Submission & Deadline: The assignment must be completed with MS Excel. Submit one Excel file “A03_’your name’.xlsx” with **(a)-(c)** on sheet #1, **(d)** on sheet #2, and **(e)** on sheet #3 by Tuesday, 02/14/12, midnight. Bring one hardcopy to class on Wednesday, 02/15/12.