**In-Class Assignment 14**

1. For the price field in the diamonds dataset
   1. First plot a histogram of the data. Does it look approximately exponential?

Text

Description automatically generated

Chart, histogram

Description automatically generated

It has an exponential distribution.

* 1. Adapt the LL optimization code to find the maximum likelihood estimate for an exponential distribution for the price data.

Graphical user interface, text, application

Description automatically generated

1. From diamonds dataset take the field z. Adopt the code to find the MLE’s for the parameters of the normal distribution.



Chart, histogram

Description automatically generated

1. A sample consists of {0.1, 0.2, 0.5, 0.7, 0.8, 0.9, 0.95}. It is thought to fit a probability distribution of the form p(x) = (α+1)xα, for 0 ≤ x ≤ 1. Find the maximum likelihood estimate for the parameter α.

A picture containing graphical user interface

Description automatically generated