Problem I: compare populations

To compare the methylation level between state “n” (normal), and that of stage “I”

Use wilcox rank sum test

Proble II: assess the significance level of each individual

1. Fit a beta distribution using normal samples only
2. For each sample in state i, calculate the probability that it is from the normal sample

For MLE estimation, refer to the following website.

http://www.itl.nist.gov/div898/handbook/eda/section3/eda366h.htm