**Computing and Graphics in Applied Statistics February 26, 2020**

**Sample questions for Test 1** (I indicated 5 sample questions were to be given but these 4 nicely capture the essence of the likely questions to appear on the test).

1. Given the follow data: y1=1, y2=3, y3=4, y4=6, y5=7, y6=18

Compute the 1/6 or (16.7%) trimmed mean

2. Suppose a coin with Probability(Head) = 0.2 is tossed until a Head appears. Outline the steps of a Monte Carlo simulation that you would use to obtain the expected number of tosses of this coin until the first Head appears.

3. What is meant by an adaptive estimator?

4. A researcher is interested in estimating the probability of cure represented by Y=1 after receiving a given dose(mg) X of a drug. Note that Y=0 represents the event of no cure.

Prob(Y=1)= (βx) / (1 + (βx) )

The following 3 data points: (X,Y)= (1,0), (2,1), (4,1) were observed. If there are only 2 possible choices for β, 0.5 or 1.0, find the Maximum Likelihood Estimator for β.