

CSE 544

Assignment 3

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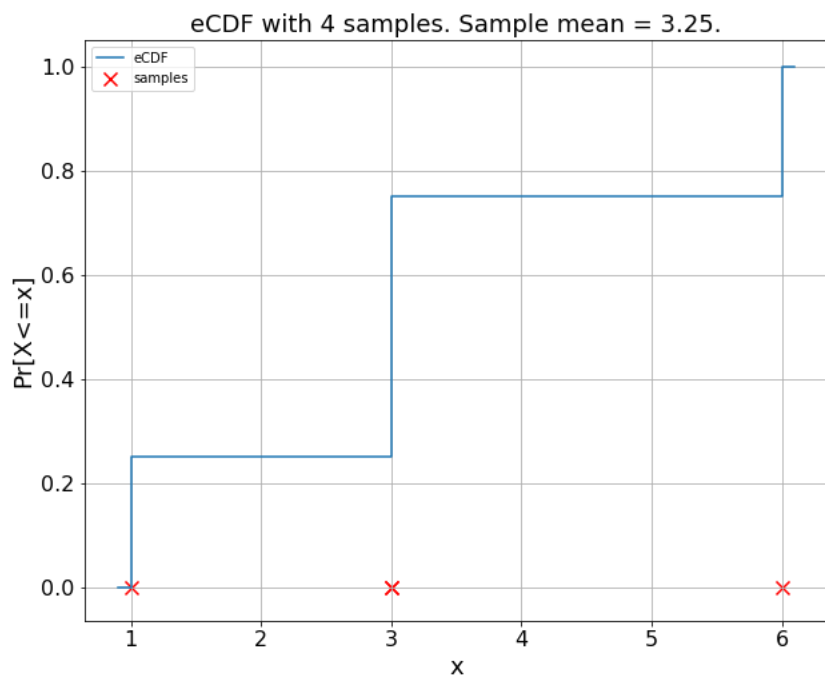
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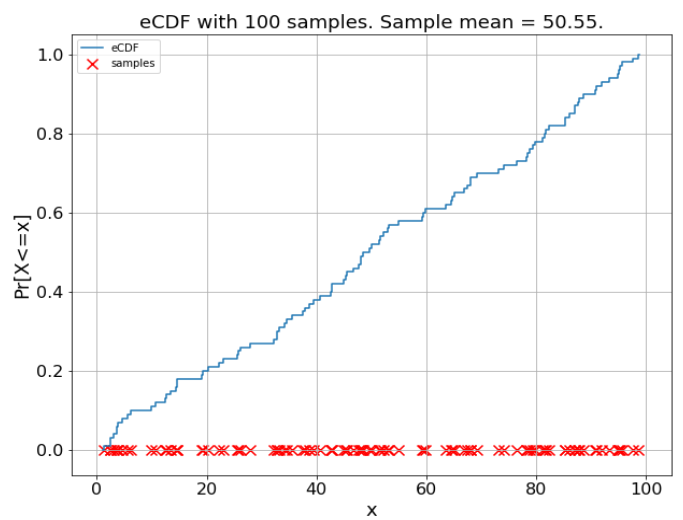
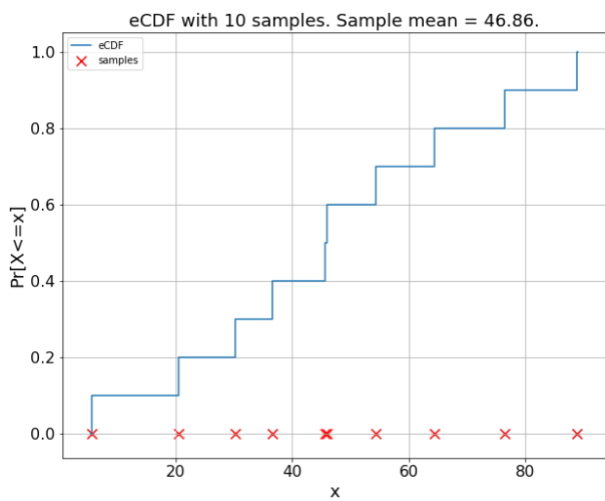
Plots

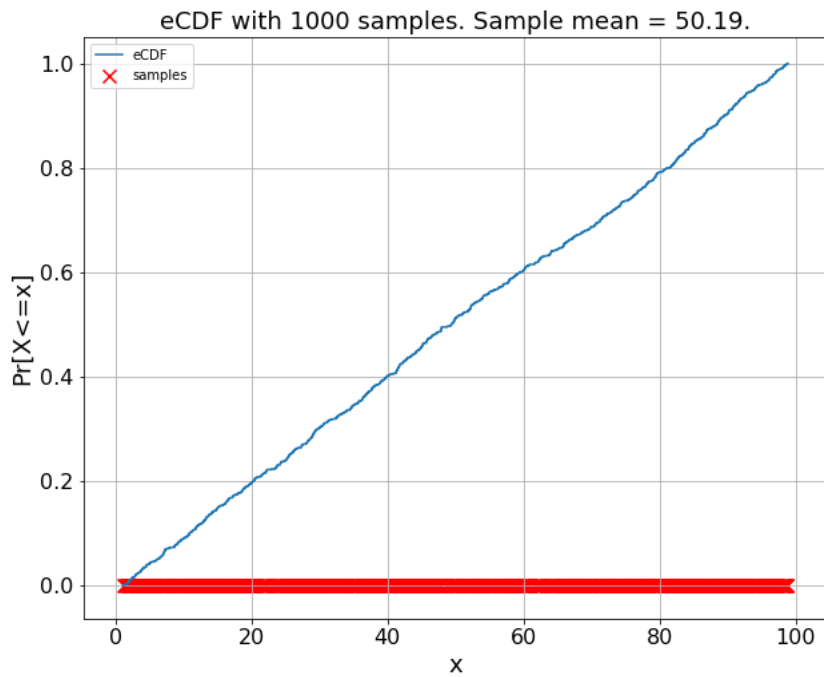
Question: 2

2a) $S = [1, 3, 3, 6]$



2b)





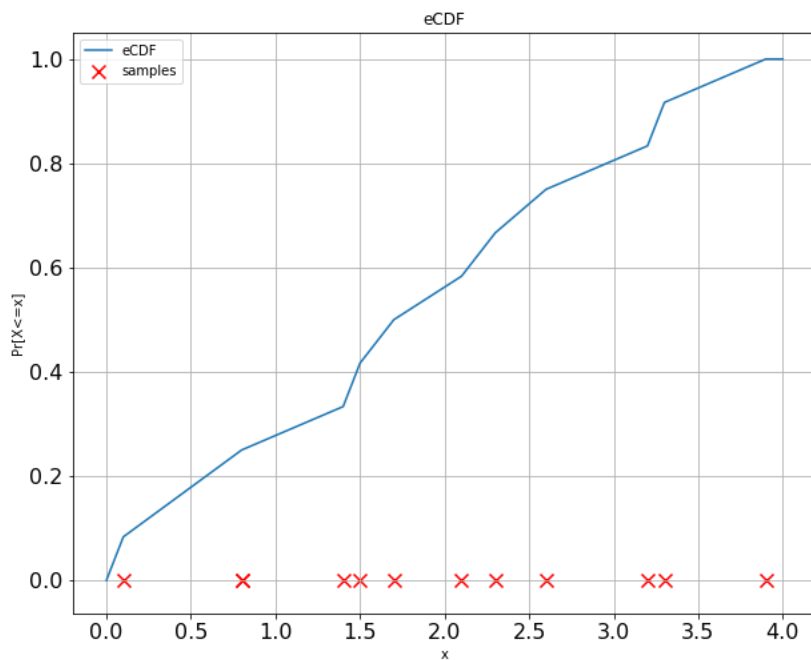
Observation:

As the number of samples increases, the eCDF is closer to a straight line.

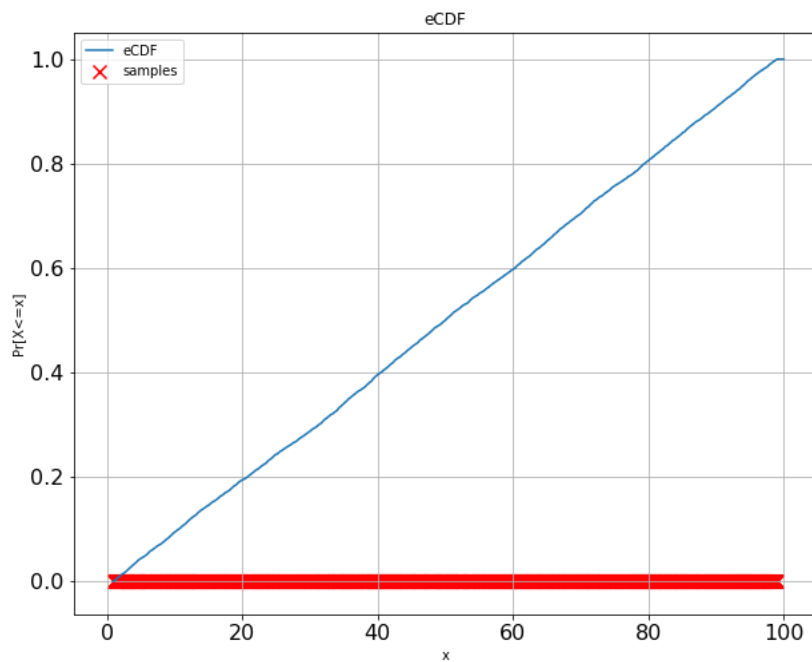
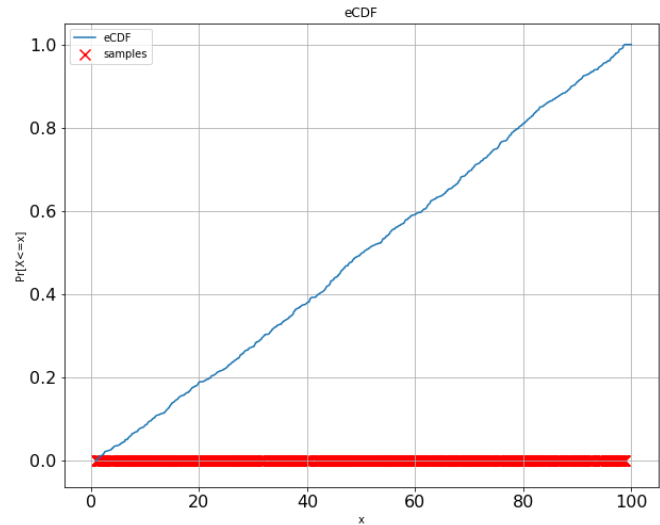
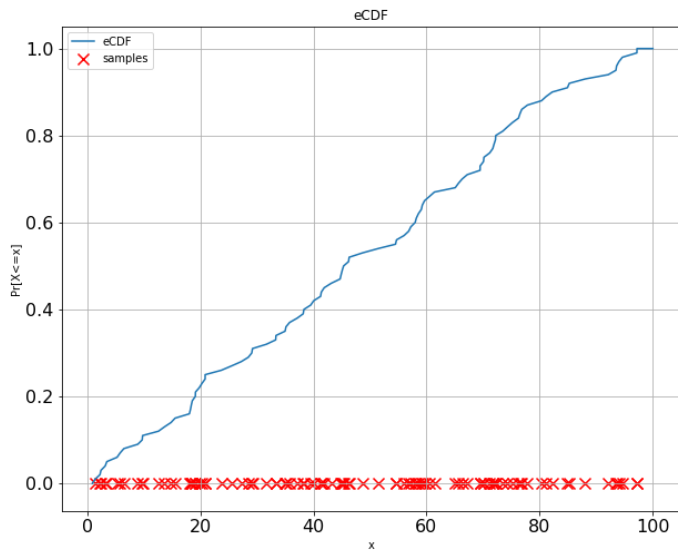
(We know that our random samples are uniformly distributed and eCDF of a uniform distribution is a straight line)

As n increases the steps become small and small and converge into a straight line.

2c) $[[0.1, 3.2, 2.3, 1.4]], ([1.7, 3.3, 0.8, 2.1]), ([1.5, 2.6, 0.8, 3.9])]$



2d)



Observation:

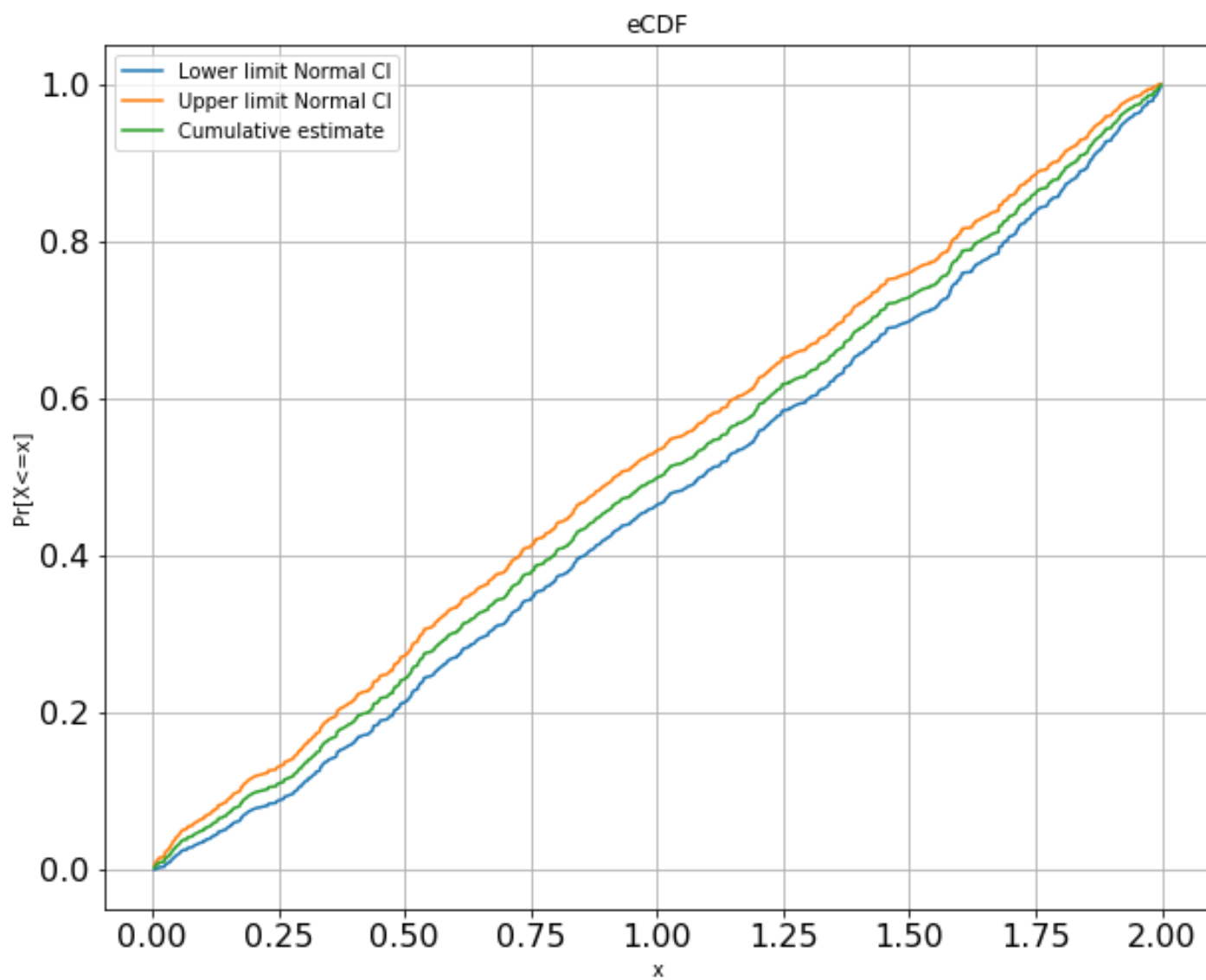
This problem is similar to the one discussed in the class where there are n sample points and m students. And your eCDF will only depend only n -samples and our remaining observations would be similar to 2(b). We get perfect straight line as n increases.

As the number of samples increases, the eCDF is closer to a straight line.

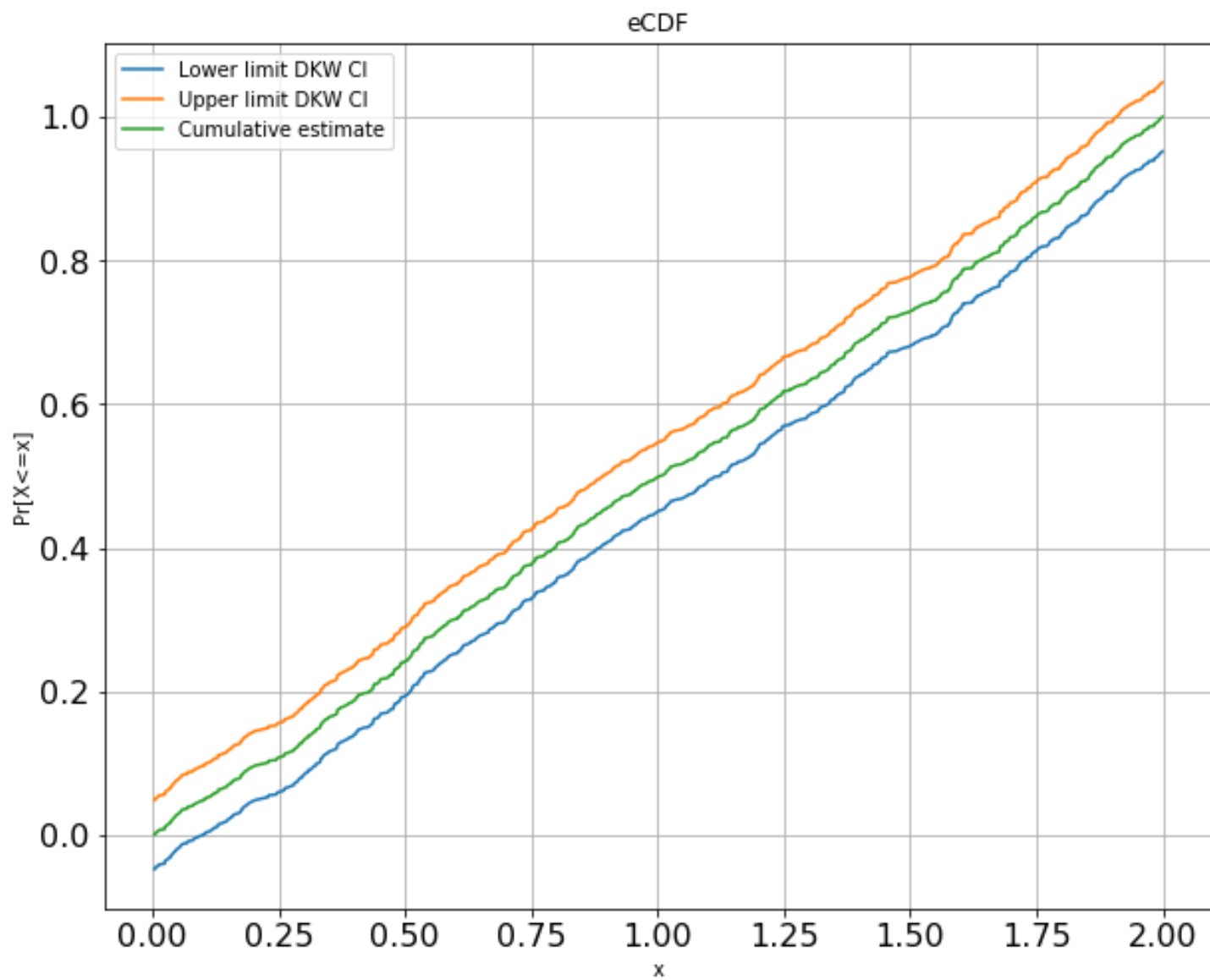
(We know that our random samples are uniformly distributed and eCDF of a uniform distribution is a straight line)

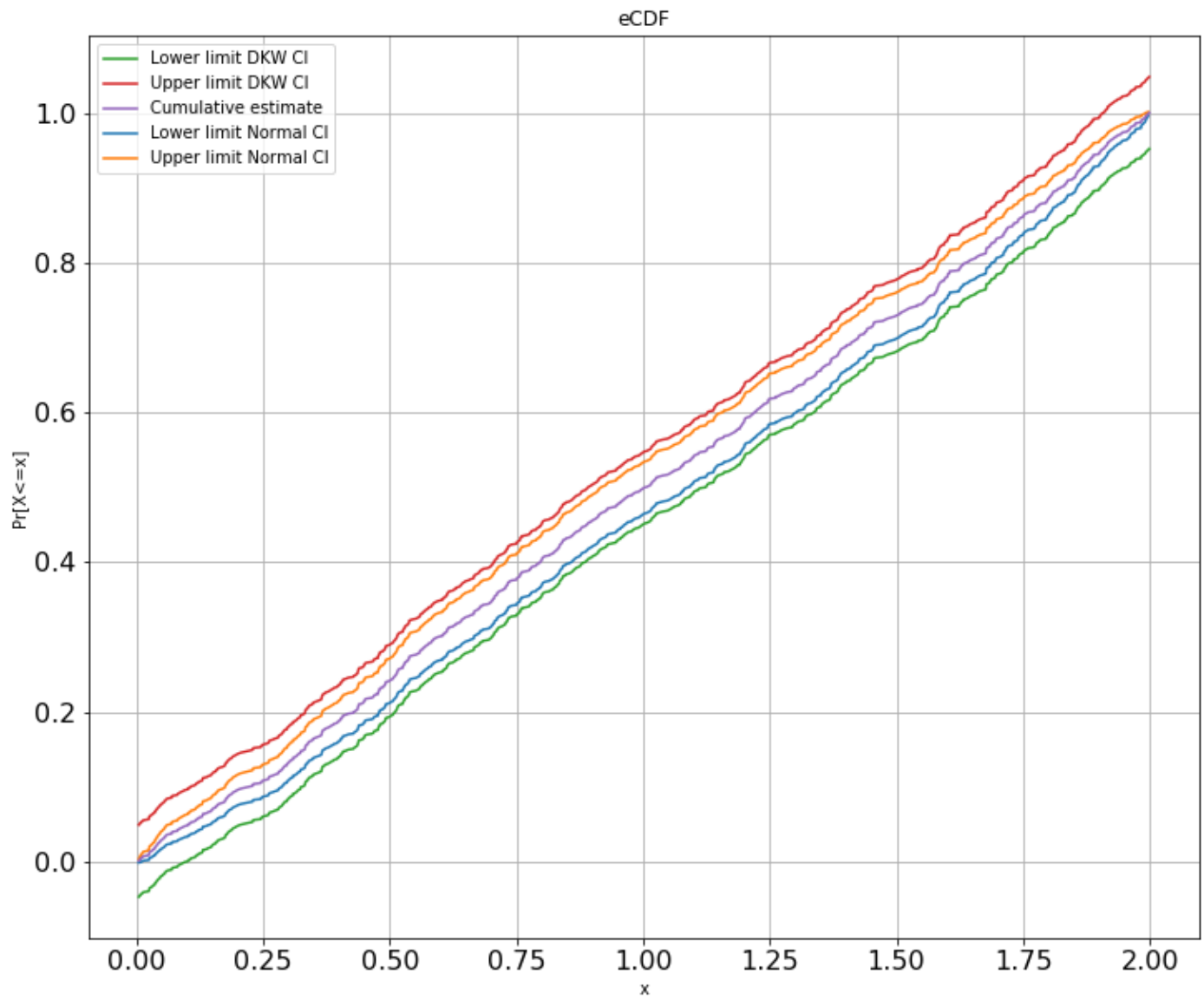
As n increases the steps become small and small and converge into a straight line.

2e)



2f)

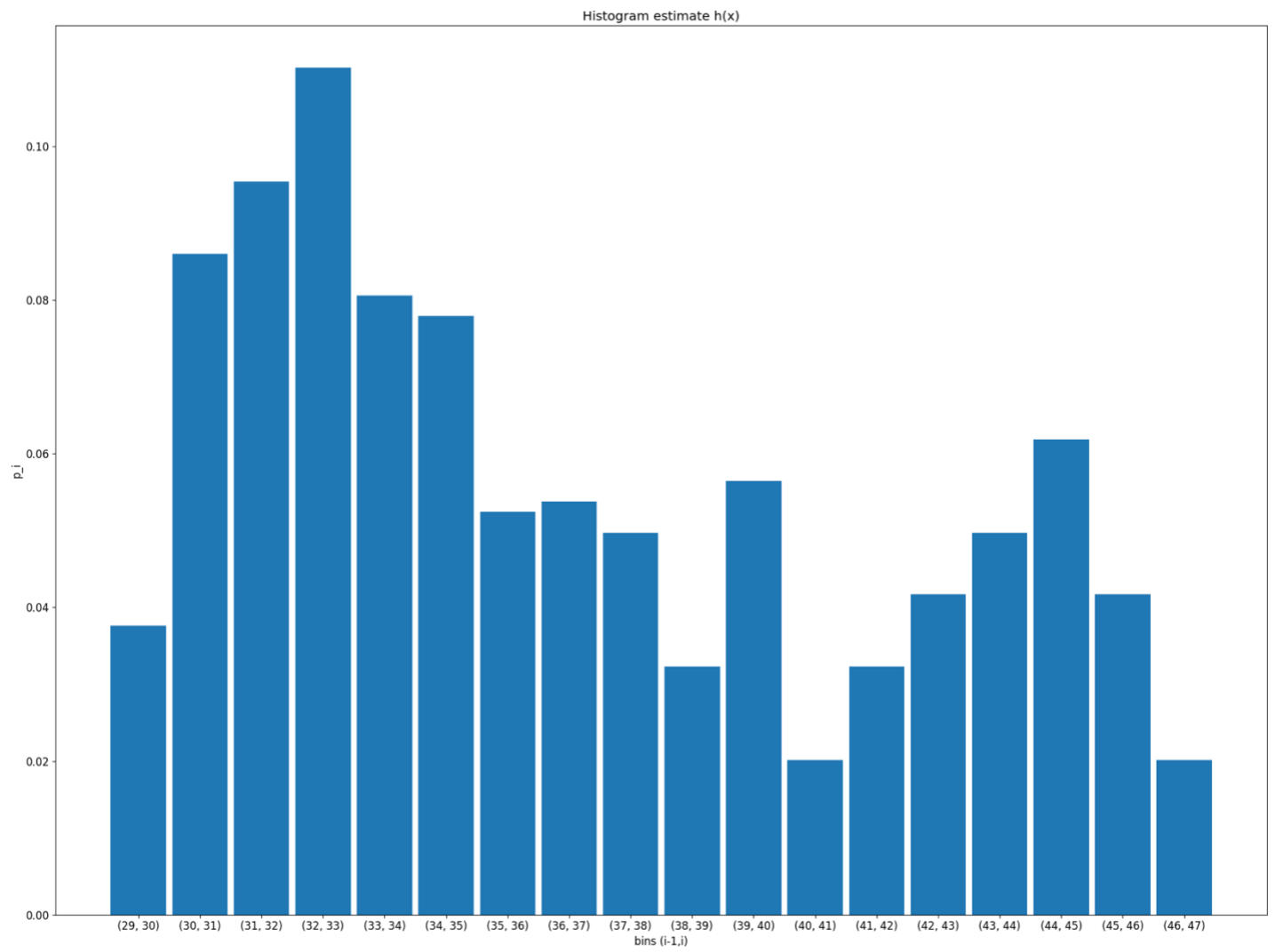




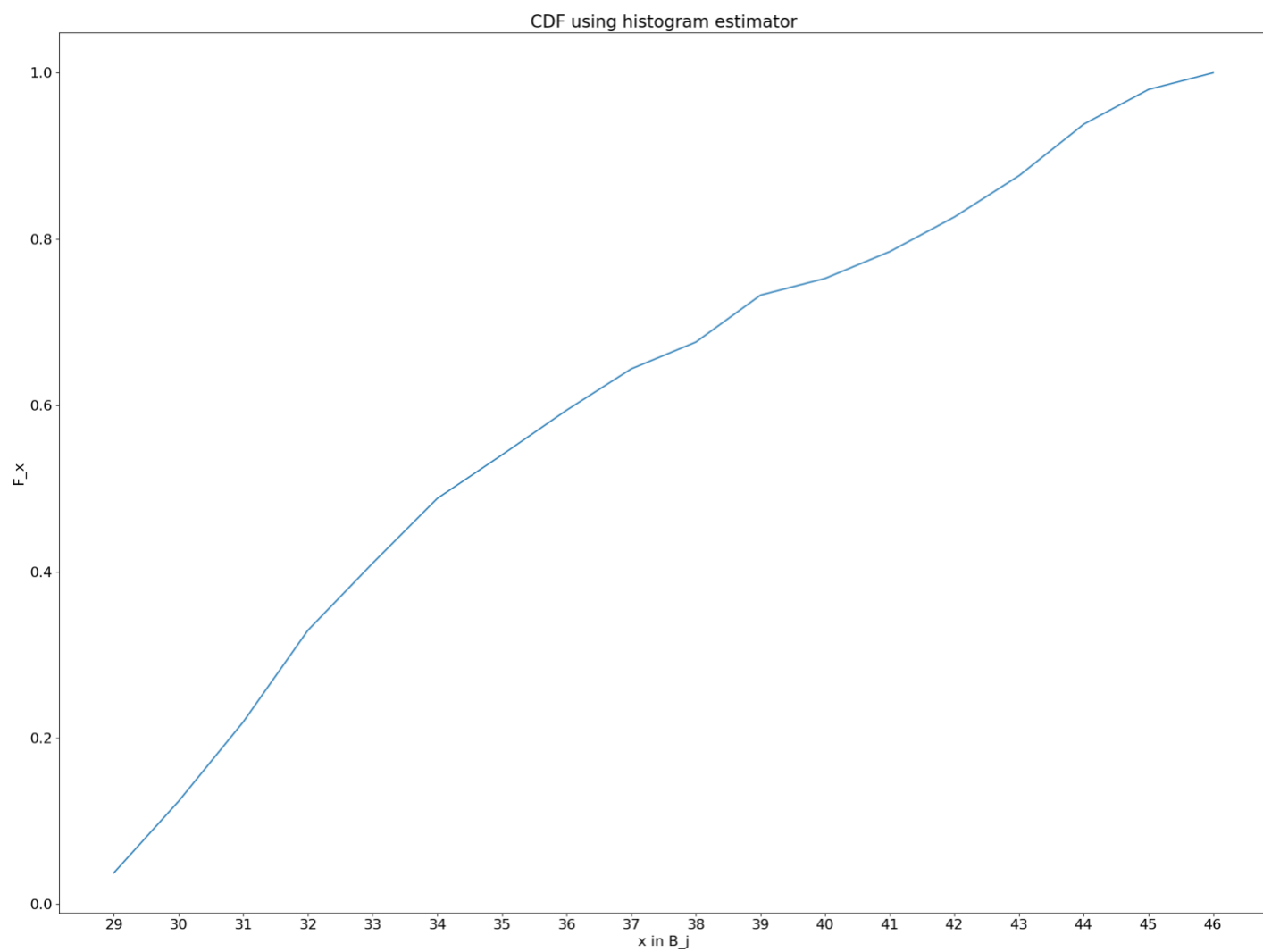
Observation:

From the graph, normal CI is a tighter bound than DKW CI.

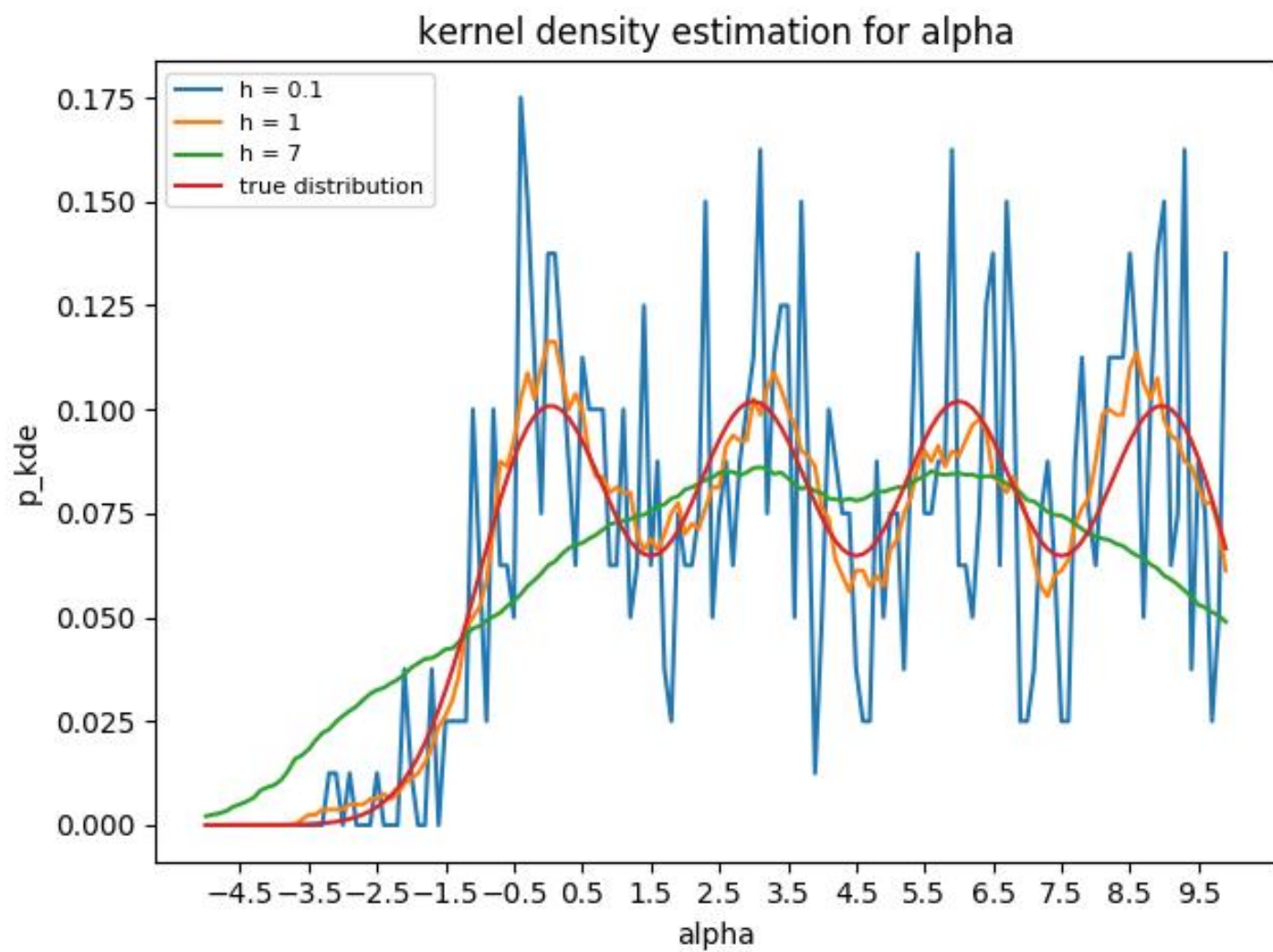
5c)



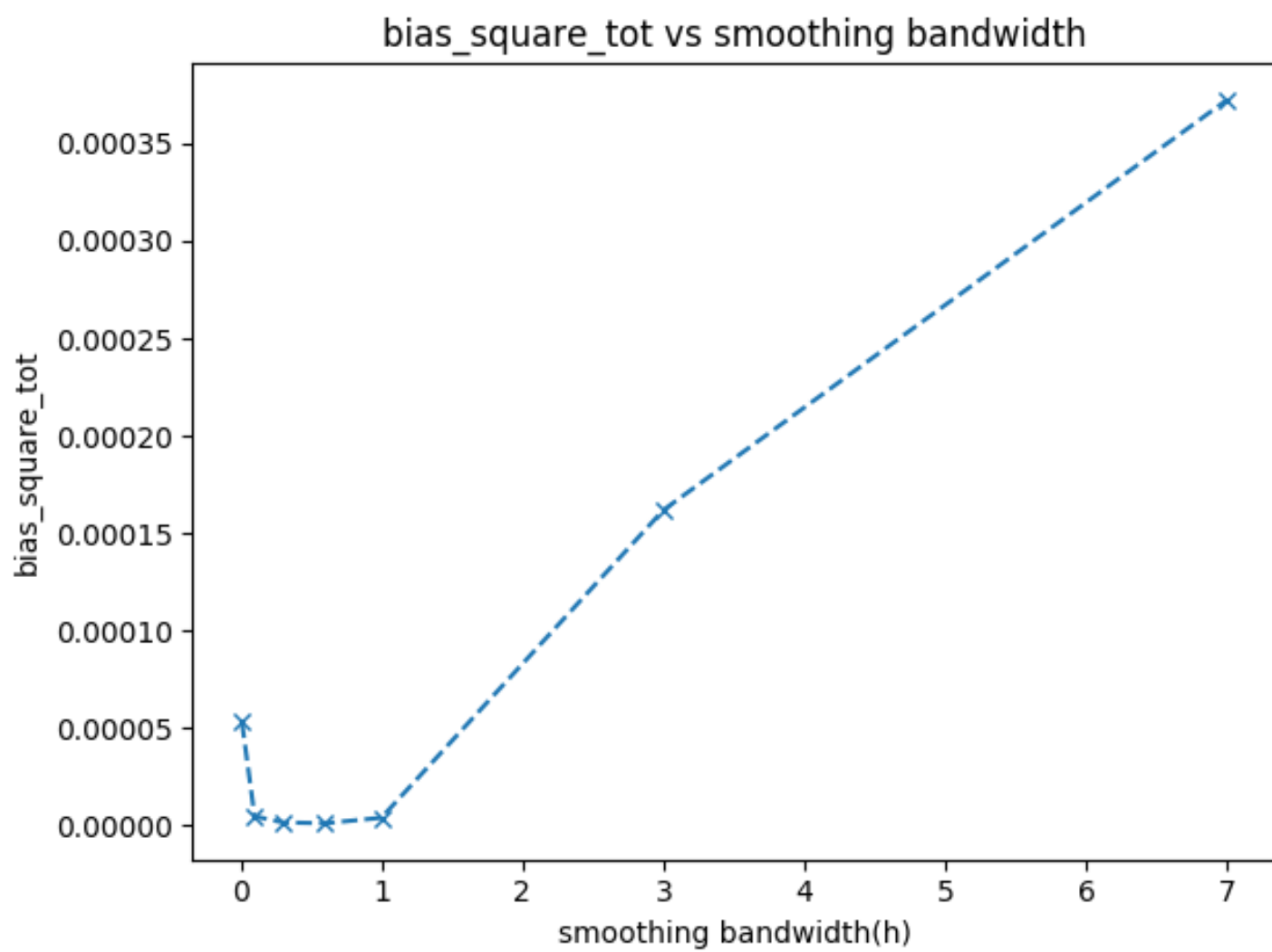
5d)



7a)



7b)



var_tot vs smoothing bandwidth

