***Question 2:***

***b.***

yes, the average error over 10 random sample decreases as the sample size increase and the gap between the maximum and minimum error shrinks as the sample size grows. as

as shown in class; by increasing sample

***Question 3:***

***a.***

proof:

η of D is c-Lipschitz with respect to the Euclidean distance.

therefore, by definition: .

Hence, it’s sufficing to show that This is clear since

***b.***

***Question 4:***

***a.***

we can represent each rabbit as vector in since we only consider the parameters age and weight. it’s also known rabbits are limited to live 48 month and weigh 4kg, hence *.*

we would like to predict if rabbit is black or white so we can let or where means black rabbit.

***b.***

sd

***c.***

***d.***

***e.***

***f.***

***g.***