## 2.11

Given Values are:

$$\Delta = 0.05 , d_v c = 10 \text{ Initially } N = 10$$

$$N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2N)^{d_v c} + 1}{\delta} \right]$$

$$10 \ge \frac{8}{0.05^2} ln \left[ \frac{4(2*10)^{10} + 1}{0.05} \right]$$

$$10 \ge \frac{8}{0.0025} ln \left[ \frac{4*1024000000001}{0.05} \right]$$

$$10 \ge \frac{8}{0.0025} * 34.33$$

$$10 \ge 100856$$

$$N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2N)^{d_{vc}} + 1}{\delta} \right]$$

$$10 \ge \frac{8}{0.052} ln \left[ \frac{4(2*10)^{10}+1}{0.05} \right]$$

$$10 \ge \frac{8}{0.0025} ln \left[ \frac{4*10240000000001}{0.05} \right]$$

$$10 \ge \frac{8}{0.0025} * 34.33$$

 $10 \geq 109856$ 

Now Initially N=100

$$N \geq \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}}+1}{\delta}]$$

Now Initially 
$$N = 100$$
  
 $N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2N)^{d_{vc}+1}}{\delta} \right]$   
 $100 \ge \frac{8}{0.05^2} ln \left[ \frac{4(2*100)^{10}+1}{0.05} \right]$   
 $100 \ge \frac{8}{0.0025} ln (8.192e + 24)$   
 $100 \ge \frac{8}{0.0025} * 57.3$   
 $100 > 183360$ 

$$100 \ge \frac{8}{0.0025} ln(8.192e + 24)$$

$$100 \ge \frac{8}{0.0025} * 57.3$$

$$100 \ge 183360$$

Now Initially N = 1000

$$N \ge \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}} + 1}{\delta}]$$

Now littrary 
$$N = 1000$$
  
 $N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2N)^{d_{vc}+1}}{\delta} \right]$   
 $1000 \ge \frac{8}{0.05^2} ln \left[ \frac{4(2*1000)^{10}+1}{0.05} \right]$   
 $1000 \ge \frac{8}{0.0025} ln (8.192e + 34)$ 

$$1000 \ge \frac{0.08}{0.0025} ln(8.192e + 34)$$

$$1000 \ge \frac{8}{0.0025} * 80.39$$
$$1000 \ge 257251.36$$

$$1000 \ge 257251.36$$

Now Initially 
$$N = 10000$$

$$N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2N)^{dvc} + 1}{\delta} \right]$$

$$N \ge \frac{8}{\epsilon^2} ln \left[ \frac{4(2*10000)^{10} + 1}{\delta} \right]$$

$$10000 \ge \frac{8}{0.005^2} ln \left[ \frac{4(2*10000)^{10} + 1}{0.05} \right]$$

$$10000 \ge \frac{8}{0.0025} ln(8.192e + 44)$$

$$10000 \ge \frac{8}{0.0025} * 103.4169$$

$$10000 \ge \frac{827.335}{0.0025}$$

$$10000 \ge 330934$$

$$10000 \ge \frac{8}{0.0025} ln(8.192e + 44)$$

$$10000 \ge \frac{8}{0.0025} * 103.4169$$

$$10000 \ge \frac{827.335}{0.0025}$$