2.11
Given Values are:
$\Delta = 0.05$ , $d_vc = 10$ Initially $N = 10$
$N \geq \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}}+1}{\delta}]$
$10 \geq \frac{8}{0.05^2} ln[\frac{4(2*10)^{10}+1}{0.05}]$
$10 \geq \frac{8}{0.0025} ln[\frac{4*10240000000001}{0.05}]$
$10 \geq \frac{8}{0.0025} * 34.33$
$10 \geq 109856$
Now Initially $N = 100$
$N \geq \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}}+1}{\delta}]$
$100 \geq \frac{8}{0.05^2} ln[\frac{4(2*100)^{10}+1}{0.05}]$
$100 \geq \frac{8}{0.0025} ln(8.192e + 24)$
$100 \geq \frac{8}{0.0025} * 57.3$
$100 \geq 183360$
Now Initially $N = 1000$
$N \geq \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}}+1}{\delta}]$
$1000 \geq \frac{8}{0.05^2} ln[\frac{4(2*1000)^{10}+1}{0.05}]$
$1000 \geq \frac{8}{0.0025} ln(8.192e + 34)$
$1000 \geq \frac{8}{0.0025} * 80.39$
$1000 \geq 257251.36$
Now Initially $N = 10000$
$N \geq \frac{8}{\epsilon^2} ln[\frac{4(2N)^{d_{vc}}+1}{\delta}]$
$10000 \geq \frac{8}{0.05^2} ln[\frac{4(2*10000)^{10}+1}{0.05}]$
$10000 \geq \frac{8}{0.0025} ln(8.192e + 44)$
$10000 \geq \frac{8}{0.0025} * 103.4169$
$10000 \geq \frac{827.335}{0.0025}$
$10000 \geq 330934$