

```

clc;
clear;
close all;
k=8.99e9;           %coulumb constant
L=2;  %3 %4 %19      %length of wire (Assuming an arbitrary value for calculation purposes)
lambda0=21; %2 %4 %21 %charge density (Assuming an arbitrary value for calculation purposes)
Eye=2*L*k*lambda0/((2^0.5)*L^2);
for l=1:100
    n=2*l + 1;
    sum=0;
    Eya1=0;
    for i=1:n
        Eya0=(k*lambda0*2*(L/(2*n + 1))) * (2*L/(L^2 + (i^2*L^2/n^2))^1.5);
        Eya1=Eya0+Eya1;
        j=i;

    end
    Eya=Eya1 + ((k*lambda0*2*(L/(2*n + 1)))*(1/L^2)) ;
    e=abs(Eye-Eya)/Eye;
    if e<0.01
        fprintf('Total number of points (n) for error e=%f is %d.\n',e,n)
        fprintf('Delta value is L/%d.\n',n)
        break;
    end
end
end

```

Total number of points (n) for error e=0.009902 is 25.
Delta value is L/25.

