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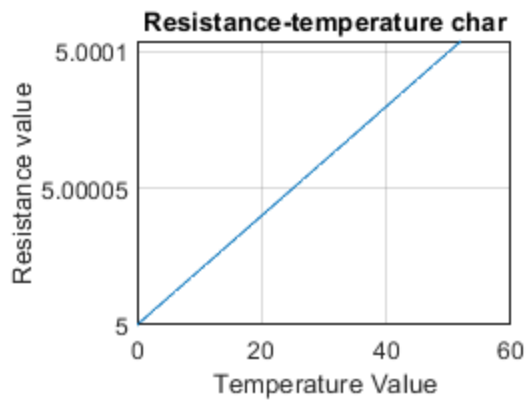
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## Engineering applications

```
clc
clear
close all;
```

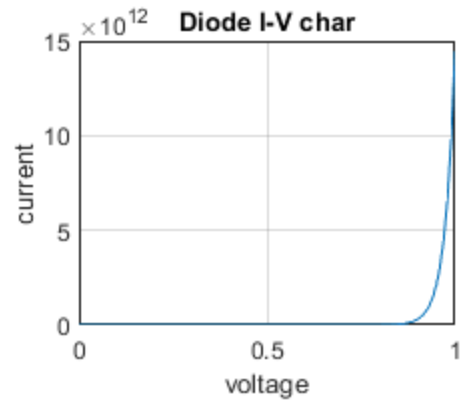
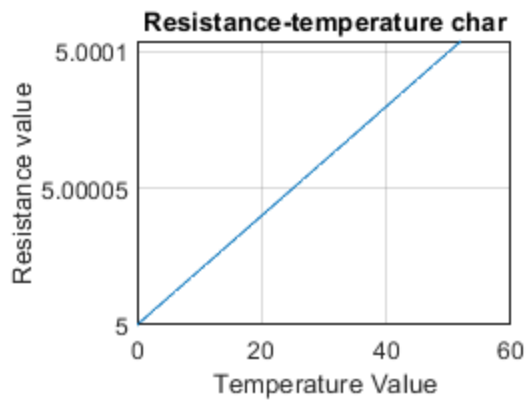
### resistance-temp plot

```
r0=5;
alpha=4e-7;
temp=linspace(0,52,100);
rt=r0+(r0*alpha*temp);
figure('name',' Engineering Application','Numbertitle','off');
subplot(2,2,1);
plot(temp,rt);
xlabel('Temperature Value');
ylabel('Resistance value');
title('Resistance-temperature char');
grid on
```



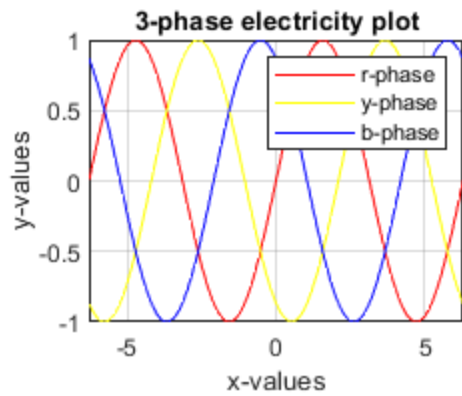
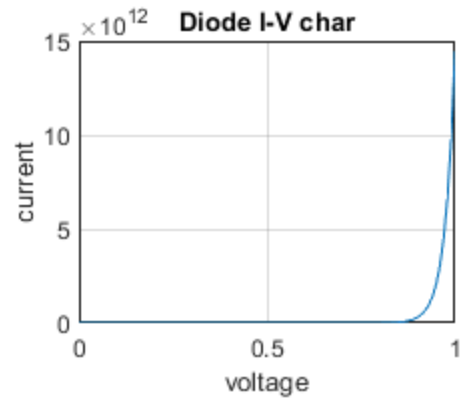
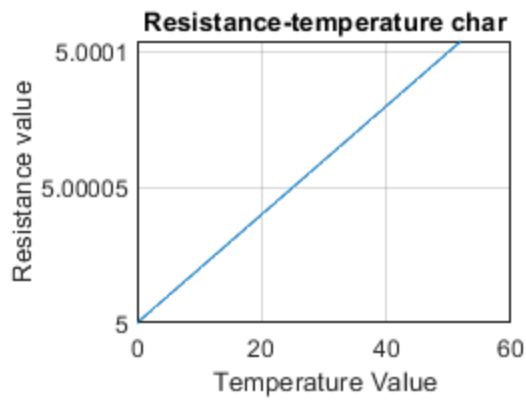
## Diode I-V plot

```
q=1.6e-19;  
k=1.38e-23;  
T=298;  
V=linspace(0,1,100);  
I0=0.5e-3;  
x=(q*V)/(k*T);  
I=I0*exp(x-1);  
subplot(2,2,2);  
plot(V,I);  
xlabel('voltage');  
ylabel('current');  
title('Diode I-V char');  
grid on
```



## 3-phase electricity plot

```
x=linspace(-2*pi,2*pi,100);
y1=sin(x);
y2=sin(x-(2*pi/3));
y3=sin(x-(4*pi/3));
subplot(2,2,3);
plot(x,y1,'r');
hold on
plot(x,y2,'y');
plot(x,y3,'b');
xlabel('x-values');
ylabel('y-values');
title('3-phase electricity plot');
grid on
c={'r-phase','y-phase','b-phase'};
legend(c,'location','northeast');
```

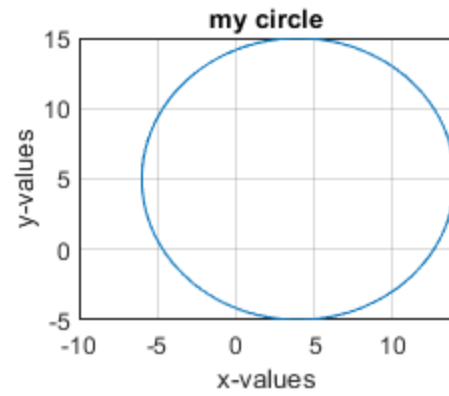
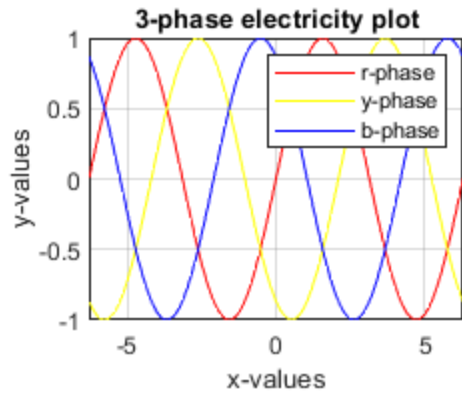
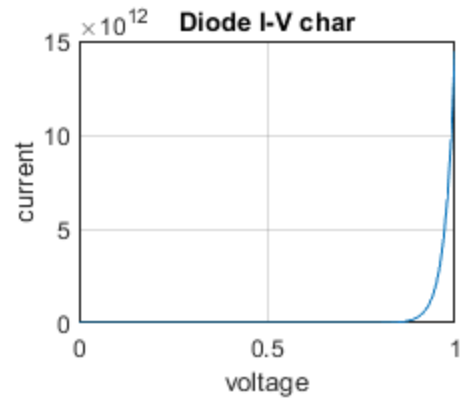
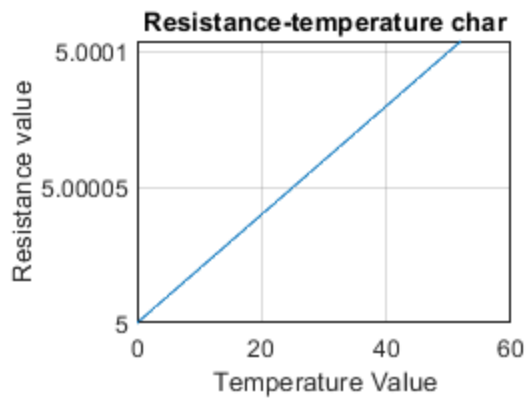


## plotting a circle

```

theta=linspace(0,4*pi,100);
% declaration of variable:centre=>(x1,y4);radius:10 units
x1=4;
y4=5;
r=10;
% declaration of parametric equation
x2=r*cos(theta)+x1;
y5=r*sin(theta)+y4;
subplot(2,2,4);
plot(x2,y5);
xlabel('x-values');
ylabel('y-values');
title('my circle');
grid on

```



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