```
%%%二题
f=inline('x.*x.*sin(cos(x))','x');
xx=linspace(0,pi,100);
yy=f(xx);
plot(xx,yy)


%%%三题
function    r=fun(x)
if x < -1,
      r = x-10;
elseif x<=1,
      r = x*x+1;
else
      r = x+10;
end


%%%四题
function    r=fun(x,y)
t = x*x+y*y;
if t <= 1,
      r = sqrt(t);
else
      r = 2*x*x+3*y*y;
end


%%%五题
function    r=fun(x,y)
t = x*x+y*y;
if t <= 1,
      r = sqrt(t);
elseif t >= 4,
r = 2*x*x+3*y*y;
else
error('输入数据错误') %输入点不在定义域内
end


%%%六题
function testmain
%方法1：   %使用ezplot
ezplot('sin(x)+cos(x)',[0 2*pi])

%方法2：   %使用plot
x = linspace(0,2*pi,100); %  或  x=0:0.1:2*pi;
plot(x,sin(x)+cos(x))

%方法3：%使用plot，计算函数值使用了inline函数
fun = inline('sin(x)+cos(x)','x');
x = linspace(0,2*pi,100); %  或  x=0:0.1:2*pi;
```

```
plot(x,fun(x))

%方法4：
fun = inline('sin(x)+cos(x)','x');
x = linspace(0,2*pi,100); %  或  x=0:0.1:2*pi;
fplot(fun,[0 2*pi])


%%%七题
x=linspace(-2*pi,2*pi,100);
f = inline('2*exp(sin(x))','x');
plot(x,f(x))


%%%八题
t = linspace(0,2*pi,50);
x = t + t.^2;
y = cos(t).*sin(t);
plot(x,y)


%%%九题
[x,y]=meshgrid([-4:0.1:4]);
z=x.*y.*exp(-x.^2+2*x.*y+y.^2);%使用数组运算(用.^,.*)
mesh(x,y,z)


%%%十题
%（1）
h = 0.1;
[X,Y]=meshgrid(2:h:8,1:h:9);
Z=sqrt(2*X.^2+3*Y.^2);
mesh(X,Y,Z)
%（2）
figure
r=1:0.1:9;
theta=0:0.2:2*pi;
[R,T]=meshgrid(r,theta);
X=R.*cos(T); Y=R.*sin(T);
Z=sqrt(2*X.^2+3*Y.^2);
mesh(X,Y,Z)


%%%十一题
x1 = -5:0.01:-2;
y1 = x1.^2-2.*x1-3;
x2 = -2:0.01:2;
y2 = x2.^2-1;
x3 = 2:0.01:5;
y3 = x3.^2+2.*x3-1;
plot(x1,y1);hold on;
plot(x2,y2);hold on;
```

```
plot(x3,y3)


%%%十二题
t = -2*pi:pi/100:2*pi;%或用  t=linspace(-2*pi,2*pi,500);
x = 2*cos(t).*cos(t);
y = 3*sin(t).*sin(t);
z = 1+2*t;
plot3(x,y,z);
grid;
xlabel('x'),ylabel('y'),zlabel('z')
```