参考答案

**1. 1053；0.9962；（0. 3282 0. 2493 0. 2500）； 0.08947**

a=2; n=50; m=10; mm=[5 18 27];

A=a\*eye(n); b=ones(n,1);

for k=1:n-1

A(k,k+1)=1; A(k+1,k)=1;

end

[xG,k,BG]=GSDD(A,b,m,1E-20); xG(mm]

r(1)=cond(A); r(2)=max(abs(eig(BG)));r(3)=norm(A\*xG-b,1);

**2. 0.5773 0.5965**

ts=1:0.05:2; x0=1.6; h=0.2; x=1:h:2; n=length(x);

[t,xx]=ode45(@ode2,ts,x0);

plot(t,xx)

rr=xx(length(xx));

y=x0;

for k=2:n

yy=y(k-1)+h\*(y(k-1)^3-exp(y(k-1))+x(k-1)-1);

y(k)=y(k-1)+h\*(y(k-1)^3-exp(y(k-1))+x(k-1)-1+yy^3-exp(yy)+x(k)-1)/2;

end

hold on; plot(x,y,'r');

**3. 是，P2>=1800，0.8**

c=[3 5 4]; A=[2 3 0;0 2 4;3 2 5]; b=[1500 2000 2000]; v=[0 0 0];

opt=optimset('LargeScale','off','simplex','on');

[x,z0,ef,out,lag]=linprog(-c,A,b,[],[],v,[],[],opt);

b=[1500 1500 2000]; v=[0 0 0];

opt=optimset('LargeScale','off','simplex','on');

[x,z0,ef,out,lag]=linprog(-c,A,b,[],[],v,[],[],opt);

b=[1500 2000 2000+1];

[x1,z1,ef1,out1,lag1]=linprog(-c,A,b,[],[],v,[],[],opt);

[c\*x1+z0, lag.ineqlin(3)\*dd]

**4. (-1.143 2.857) (-1.100 2.808)**

x0=[0 0]; %初始值

opt1=optimset('LargeScale','off');

[x1,v1,exit1,out1]=fminunc(@test04,x0,opt1);

fopt=optimset(opt1,'HessUpdate','steepdesc');

fopt=optimset(fopt,'tolx',1e-2,'tolf',1e-2);

[x3,v3,exit3,out3]=fminunc(@test04,x0,fopt);

function y=test04(x)

y=2\*x(1)^2+2\*x(2)^2+3\*x(1)\*x(2)-4\*x(1)-8\*x(2);

**5. 0.4588, 0.9499, 10927**

**原假设成立时：**

n=28; u=6; n=28;

xx=4/sqrt(n); x1=6.56;

z=(x1-u)/xx;

pv=2\*(1-normcdf(z,0,1));

**时，拒绝域**

**时，**

第二类错误

a=0.05; u1=[6.2 6.2];

xb=norminv(1-a/2,0,1); % u\_0.975

b=[u+xb\*xx,u-xb\*xx];

cc=normcdf((u1-b)/xx);

e2=cc(2)-cc(1);

nn=ceil((4\*xb\*2/0.15).^2)

**6． 根的个数：1; 2.2290**

x=0:0.1:10;

for k=1:length(x)

z(k)=quad('cos(exp(3./(x+1))).\*sin(2\*x)',0,x(k));

end

plot(x,z); hold on; plot(x,0.36,’r’);

xx=2;

for k=1:8

ff=quad('cos(exp(3./(x+1))).\*sin(2\*x)',0,xx(k))-0.36;

fd=cos(exp(3./(xx(k)+1))).\*sin(2\*xx(k));

xx(k+1)=xx(s,k)-ff/fd;

end

1. **(1.6695, 1.79249)；（171.98，183.22）**

**X1 = 86.6372 + 0.5255\*X2 （ X1= 61.5733 + 0.6280\*X2）**

**总=556.4, 回=183.6, R2=0.33, F=3.94, P=0.0824（rt=664.9; rr=445.5;） 0.196\***

x1=[176,163,180,184,174,177,183,159,165,170];

[mu1,s1,muci1,sc1]=normfit(x1,0.05);

x2 = [182,165,171,179,187,178,191,175,170,178];

[mu2,s2,muci2,sc2]=normfit(x2,0.05);

n = length(x2);

X = [ones(n,1),x2'];

[b,bint,r,rint,s]=regress(x1',X);

rs=norm(b(1)+b(2)\*x2-mean(x1))^2;

rr=norm(b(1)+b(2)\*x2-x1)^2;

rt=norm(x1-mean(x1))^2;

n=1000000; sx=8; sy=8; rho=0.6;

e\_x=173; e\_y=176; x1=175; y1=175; z=0; m=0;

ww=5; a1=x1-ww; a2=x1+ww; b1=y1-ww; b2=y1+ww;

y=unifrnd(b1,b2,1,n); x=unifrnd(a1,a2,1,n);

for i=1: n

if (x(i)-x1)^2+(y(i)-y1)^2<=ww^2

t1=(x(i)-e\_x)^2/sx^2; t2=(y(i)-e\_y)^2/sy^2;

t3=2\*rho\*(x(i)-e\_x)\*(y(i)-e\_y)/(sx\*sy);

u=exp(-1/(2\*(1-rho^2))\*(t1+t2-t3)); z=z+u; m=m+1;

end

end

P=4\*ww\*ww\*z/(2\*pi\*sx\*sy\*sqrt(1-rho\*rho)\*n)