

LAMPIRAN-LAMPIRAN

```
figure
%Tiga Area Nilai Awal

xlabel('Gambar 3.1 : Tiga area nilai awal')
x=0:5;
y1=4.45-x;
y2=2.25-x;
plot(x,y1,x,y2);
axis([0 5 0 5])
plot(x,y1,x,y2);

%-----
figure
%Plot sistem dinamika pinjaman terhadap parameter t pada area 3

t=0:0.02:1;
D=10; L=7;
Lt1=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
    .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
    ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
    .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=8;
Lt2=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
    .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
```

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        ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=9;
Lt3=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
        .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
        ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=10;
Lt4=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
        .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
        ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=11;
Lt5=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
        .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
        ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(t,Lt1,t,Lt2,t,Lt3,t,Lt4,t,Lt5);
axis([0 1 5 13]);

%-----
figure
%Plot Suku Bunga Pinjaman terhadap parameter t

t=0:0.02:1;
rL=0.11+0.03*cosd(2*180*t);

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rLt=-0.06*pi*sind(2*180*t);
r=0.06+0.01*sind(2*180*t);
plot(t,rL,t,rLt,t,r)

%-----
figure
%Plot sistem dinamika pinjaman terhadap parameter t pada area 3

t=0:0.02:1;
D=10; L=7;
Dt1=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=8;
Dt2=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=9;
Dt3=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=10;
Dt4=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
D=10; L=11;

```

```

Dt5=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(t,Dt1,t,Dt2,t,Dt3,t,Dt4,t,Dt5);

```

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%-----

```

```

figure

```

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%Plot Suku Bunga Deposito terhadap parameter t

```

```

t=0:0.02:1;
rD=0.04+0.02*sind(2*180*t);
rDt=0.04*pi*cosd(2*180*t);
r=0.06+0.01*sind(2*180*t);
plot(t,rD,t,rDt,t,r)

```

```

%-----

```

```

figure

```

```

%Grafik perubahan volume permintaan pinjaman terhadap parameter t untuk
nilai b = 0.3 dan g=-0.3

```

```

t=0:0.02:1;
D=10; L=8;
Lt2=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
.*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);

```

```

plot(t,Lt2)

%-----
figure
%Grafik perubahan suplai volume deposito terhadap parameter t untuk
  nilai b = 0.3 dan g=-0.3

t=0:0.02:1;
D=10; L=8;
Dt2=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
  .*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
  .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(t,Dt2)

%-----
figure
%Grafik volume pinjaman terhadap volume deposito pada area 3

t=0:0.02:1;
D=10; L=8;
Dt2=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
  .*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
  .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
Lt2=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
  .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
  ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092

```

```

        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(Dt2,Lt2);

%-----
figure
%Grafik volume pinjaman terhadap volume deposito bergradien positif
pada area 3

t=0:0.02:0.25;
D=10; L=8;
Dt2=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
        .*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
Lt2=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
        .*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25)))
        ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
        .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(Dt2,Lt2);

%-----
figure
%Plot L terhadap t dengan nilai g berbeda pada area 3

t=0:0.02:1;
D=10; L=8;
g=-0.1;

```

```

Lta=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+0.1648.*g+0.06.*g
.*cosd(2.*180.*(t-0.25))-0.0092.*g.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
g=-0.2;
Ltb=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+0.1648.*g+0.06.*g
.*cosd(2.*180.*(t-0.25))-0.0092.*g.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
g=-0.3;
Ltc=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+0.1648.*g+0.06.*g
.*cosd(2.*180.*(t-0.25))-0.0092.*g.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
g=-0.4;
Ltd=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+0.1648.*g+0.06.*g
.*cosd(2.*180.*(t-0.25))-0.0092.*g.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
g=-0.5;
Lte=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+0.1648.*g+0.06.*g
.*cosd(2.*180.*(t-0.25))-0.0092.*g.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
plot(t,Lta,t,Ltb,t,Ltc,t,Ltd,t,Lte);

```

```

%-----
figure
%Plot D terhadap t dengan nilai b berbeda pada area 3

t=0:0.02:1;
D=10; L=8;
b=0.1;
Dta=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155
.*b.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
b=0.3;
Dtb=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155
.*b.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
b=0.5;
Dtc=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155
.*b.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
b=0.7;
Dtd=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155
.*b.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
b=0.9;
Dte=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155
.*b.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);

```



```

plot(t,Dta,t,Dtb,t,Dtc,t,Dtd,t,Dte);

%-----
figure
%Plot LDR terhadap parameter t dengan nilai g berbeda pada area 3

t=0:0.02:1;
D=10; L=8;
Dt2=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.10094-0.009465
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
g=-0.1;
Lta=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+2.*g
.*(0.11+0.03.*cosd(2.*180.*(t-0.25)))-0.92.*g
.*(0.06+0.01.*sind(2.*180.*(t-0.25))))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDR1=(Lta./Dt2).*100;
g=-0.2;
Ltb=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+2.*g
.*(0.11+0.03.*cosd(2.*180.*(t-0.25)))-0.92.*g
.*(0.06+0.01.*sind(2.*180.*(t-0.25))))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDR2=(Ltb./Dt2).*100;
g=-0.3;

```

```

Ltc=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+2.*g
    *(0.11+0.03.*cosd(2.*180.*(t-0.25)))-0.92.*g
    *(0.06+0.01.*sind(2.*180.*(t-0.25))))))
    ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
    .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDR3=(Ltc./Dt2).*100;
g=-0.4;
Ltd=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+2.*g
    *(0.11+0.03.*cosd(2.*180.*(t-0.25)))-0.92.*g
    *(0.06+0.01.*sind(2.*180.*(t-0.25))))))
    ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
    .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDR4=(Ltd./Dt2).*100;
g=-0.5;
Lte=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.1065+2.*g
    *(0.11+0.03.*cosd(2.*180.*(t-0.25)))-0.92.*g
    *(0.06+0.01.*sind(2.*180.*(t-0.25))))))
    ./((0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
    .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDR5=(Lte./Dt2).*100;
plot(t,LDR1,t,LDR2,t,LDR3,t,LDR4,t,LDR5);

%-----
figure
%Plot LDR terhadap parameter t dengan nilai b berbeda pada area 3

```

```

t=0:0.02:1;
D=10; L=8;
Lt2=L+(-0.06.*pi.*sind(2.*180.*(t-0.25)).*(0.05706-0.018
.*cosd(2.*180.*(t-0.25))+0.00276.*sind(2.*180.*(t-0.25))))
./(0.0548+0.03.*cosd(2.*180.*(t-0.25))-0.0092
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
b=0.1;
Dta=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155.*b
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDRa=(Lt2./Dta).*100;
b=0.3;
Dtb=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155.*b
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDRb=(Lt2./Dtb).*100;
b=0.5;
Dtc=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155.*b
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDRc=(Lt2./Dtc).*100;
b=0.7;
Dtd=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155.*b
.*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
.*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDRd=(Lt2./Dtd).*100;

```

```

b=0.9;
Dte=D+(0.04.*pi.*cosd(2.*180.*(t-0.25)).*(-0.0935-0.0248.*b-0.03155.*b
    .*sind(2.*180.*(t-0.25))))./(0.0152-0.01155
    .*sind(2.*180.*(t-0.25))-0.01*D-0.01*L);
LDRe=(Lt2./Dte).*100;
plot(t,LDRa,t,LDRb,t,LDRc,t,LDRd,t,LDRd,t,LDRd,t,LDRd);

```

```

%-----

```

```

figure

```

```

%Plot GWM LDR terhadap D nilai g berbeda pada area 3

```

```

D=0:0.05:25;
LDR1=0.329.*(D);
LDR2=0.213.*(D);
LDR3=0.148.*(D);
plot(D,LDR1,D,LDR2,D,LDR3);

```

```

%-----

```

```

%Perhitungan GWM LDR pada area 3 dengan nilai g berbeda

```

```

D=0:0.05:25;
fun1=@(D)0.329.*(D);
q1=integral(fun1,0,25);
fun2=@(D)0.213.*(D);
q2=integral(fun2,0,25);
fun3=@(D)0.148.*(D);

```

```

q3=integral(fun3,0,25);
plot(D,q1,D,q2,D,q3);

%-----
figure
%Plot GWM LDR terhadap D nilai b berbeda pada area 3

D=0:0.05:25;
LDR1=0.146.*(D);
LDR2=0.147.*(D);
LDR3=0.154.*(D);
LDR4=0.170.*(D);
LDR5=0.194.*(D);
plot(D,LDR1,D,LDR2,D,LDR3,D,LDR4,D,LDR5);

%-----
%Perhitungan GWM LDR pada area 3 dengan nilai b berbeda

D=0:0.05:25;
fun1=@(D)0.146.*(D);
q1=integral(fun1,0,25);
fun2=@(D)0.147.*(D);
q2=integral(fun2,0,25);
fun3=@(D)0.154.*(D);
q3=integral(fun3,0,25);
fun4=@(D)0.170.*(D);

```

```

q4=integral(fun4,0,25);
fun5=@(D)0.194.*(D);
q5=integral(fun5,0,25);
plot(D,q1,D,q2,D,q3,D,q4,D,q5);

```

```

%-----

```

```

figure

```

```

%Plot GWM Total dengan nilai g berbeda pada area 3

```

```

D=0:0.05:25;
T1=0.329.*(D)+0.105.*(D);
T2=0.213.*(D)+0.105.*(D);
T3=0.148.*(D)+0.105.*(D);
plot(D,T1,D,T2,D,T3);

```

```

%-----

```

```

%Perhitungan GWM Total dengan nilai g berbeda

```

```

D=0:0.05:25;
fun1=@(D)0.329.*(D)+0.105.*(D);
q1=integral(fun1,0,25);
fun2=@(D)0.213.*(D)+0.105.*(D);
q2=integral(fun2,0,25);
fun3=@(D)0.148.*(D)+0.105.*(D);
q3=integral(fun3,0,25);
plot(D,q1,D,q2,D,q3);

```

```

%-----
figure
%Plot GWM Total dengan nilai b berbeda pada area 3

D=0:0.05:25;
T1=0.146.*(D)+0.105.*(D);
T2=0.147.*(D)+0.105.*(D);
T3=0.154.*(D)+0.105.*(D);
T4=0.170.*(D)+0.105.*(D);
T5=0.194.*(D)+0.105.*(D);
plot(D,T1,D,T2,D,T3,D,T4,D,T5);
%-----

%Perhitungan GWM Total dengan nilai b berbeda

D=0:0.05:25;
fun1=@(D)0.146.*(D)+0.105.*(D);
q1=integral(fun1,0,25);
fun2=@(D)0.147.*(D)+0.105.*(D);
q2=integral(fun2,0,25);
fun3=@(D)0.154.*(D)+0.105.*(D);
q3=integral(fun3,0,25);
fun4=@(D)0.170.*(D)+0.105.*(D);
q4=integral(fun4,0,25);
fun5=@(D)0.194.*(D)+0.105.*(D);
q5=integral(fun5,0,25);
plot(D,q1,D,q2,D,q3,D,q4,D,q5);

```