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SOURCE CODE:

clc;

clear;

clf;

s1=0;s2=0;s3=0;s4=0;se=0;

a=input("How many data points?");

for i=1:a

x(i)=[input("Value of X.")]'

y(i)=[input("Value of Y.")]'

end

disp(x,y);

for (i=1:a)

Y(i)=log(y(i))

end

for i=1:a

s1=s1+sum(x(i)^2);

s2=s2+sum(x(i));

s3=s3+sum(Y(i));

s4=s4+sum(x(i)\*Y(i));

end

disp(s1,"sum of xx=")

disp(s2,"sum of x=")

disp(s3,"sum of y=")

disp(s4,"sum of xy")

A=((s1\*s3)-(s2\*s4))/((a\*s1)-(s2\*s2));

b=((a\*s4)-(s2\*s3))/((a\*s1)-(s2\*s2));

a=exp(A)

disp(a,"a=");

disp(b,"b=");

Y=a\*exp(b\*x);

plot2d(x,Y)

plot2d(x,y,-2)

se=se+sum((y-Y).^2)

disp(se,"error");

xlabel("X","fontsize",4);

ylabel("y","fontsize",4);

xtitle("Curve Fit");

legends(['Fitted';'Actual'],[1,-2],opt="ur")

OUTPUT







