MATLAB PROBLEM SHEET -3

19pw13-Madhumitha.S

1.

>> x = [1 2 3 4 5 6 7 8 9 10]

x =

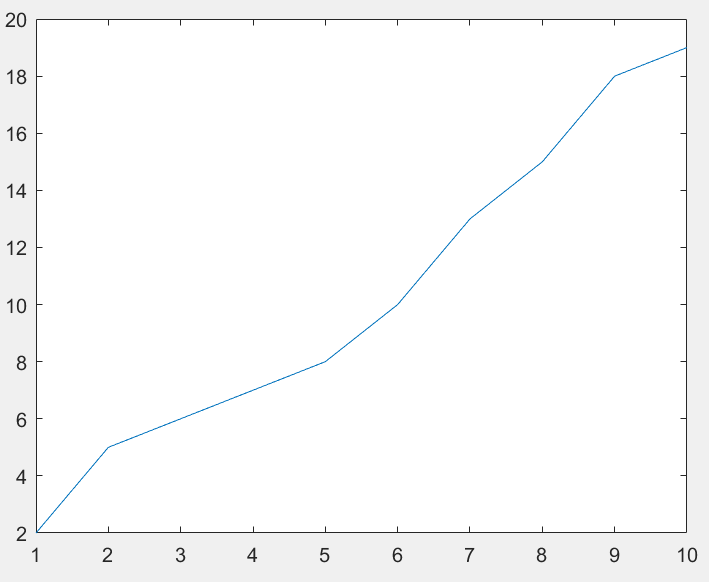
1 2 3 4 5 6 7 8 9 10

>> y = [2 5 6 7 8 10 13 15 18 19]

y =

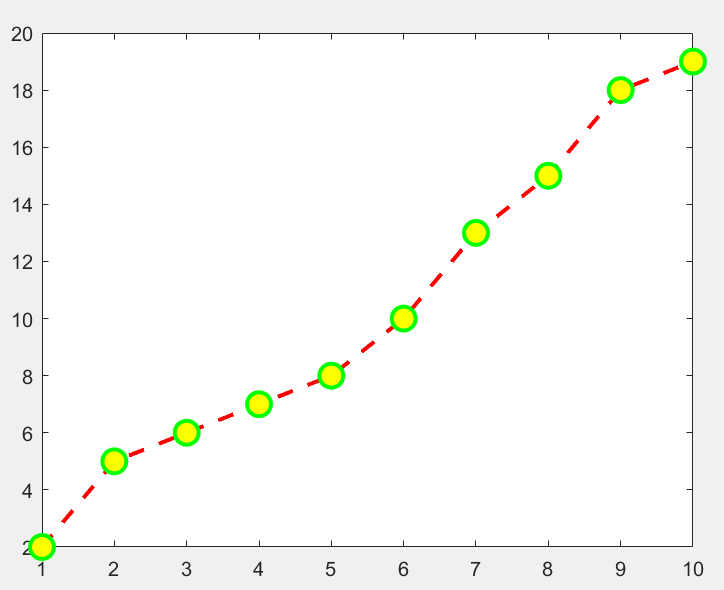
2 5 6 7 8 10 13 15 18 19

>> plot (x, y)



2.

>>plot(x,y,'--or','Linewidth',2,'MarkerSize',12,'MarkerEdgeColor','g','MarkerFaceColor','y')



3.

>>X = -2:0.01:4

X =

Columns 1 through 6

-2.0000 -1.9900 -1.9800 -1.9700 -1.9600 -1.9500

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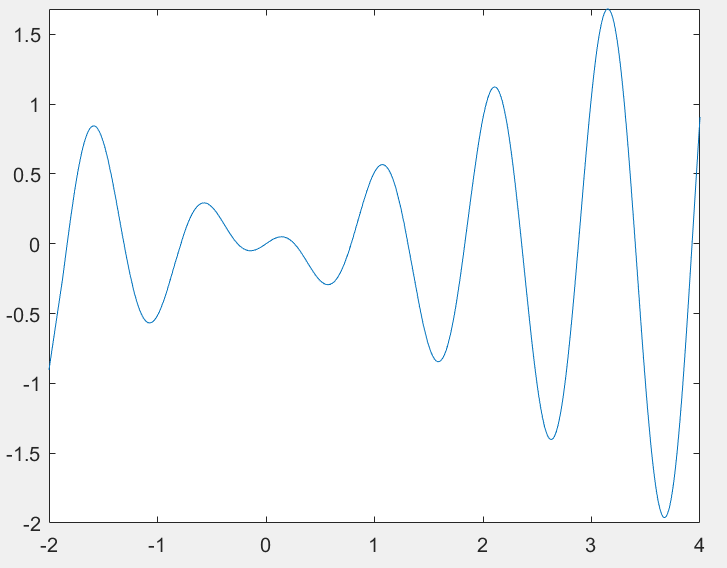
Columns 595 through 600

3.9400 3.9500 3.9600 3.9700 3.9800 3.9900

Column 601

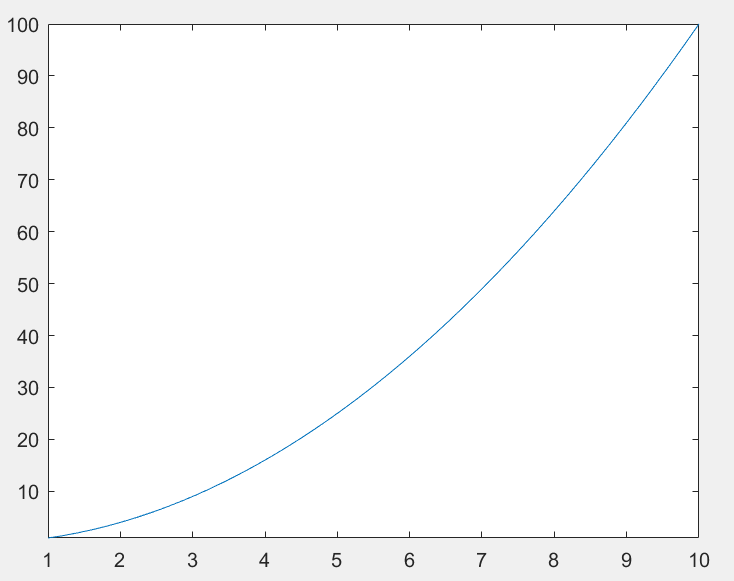
4.0000

>> fplot(@(x)(3.5.^-0.5.\*x).\*cos(6.\*x),[-2,4])

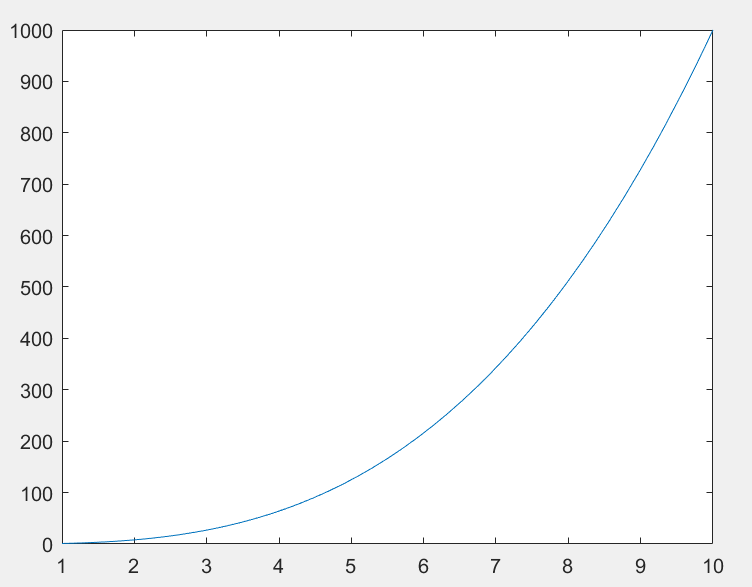


4.

(a) >> fplot(@(x)x.^2, [1,10])

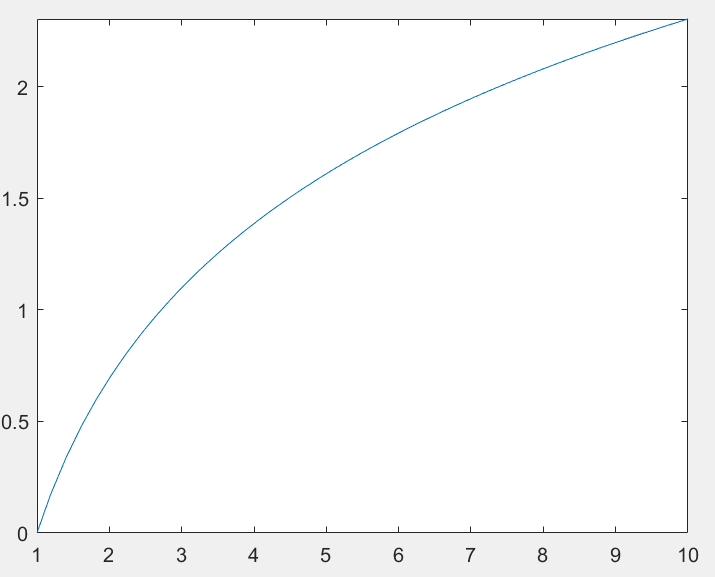


(b)>> fplot(@(x)x.^3, [1,10])



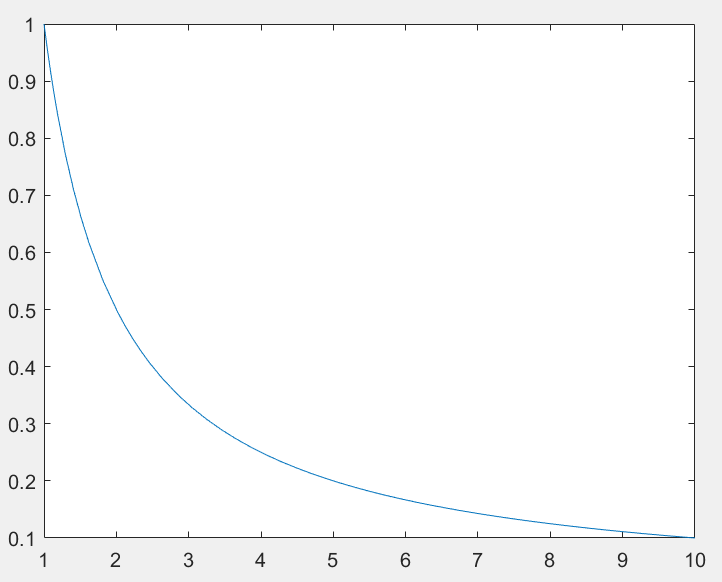
(c)

>> fplot(@(x)log(x),[1,10])



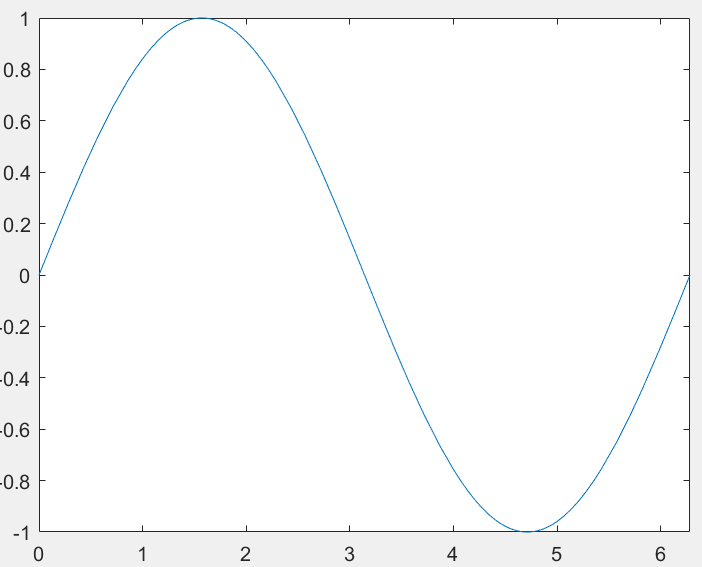
(d)

>> fplot(@(x)1./x,[1,10])

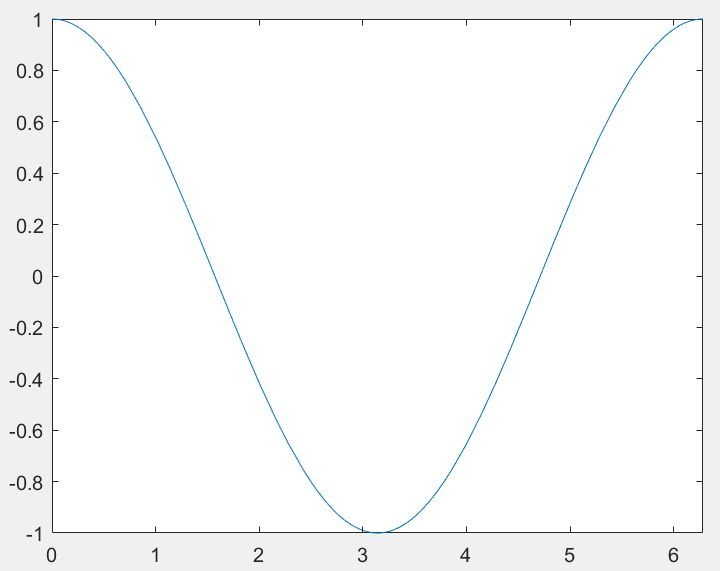


5.

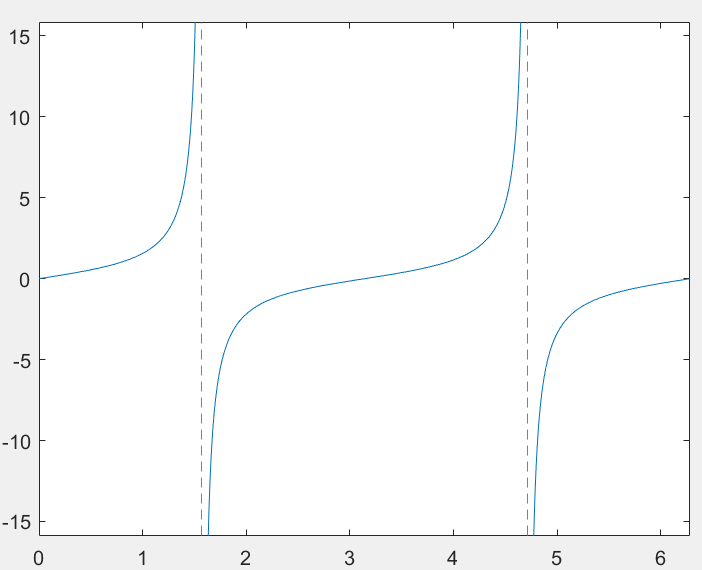
(a) >> fplot(@(x)sin(x),[0,2\*pi])



(b)>> fplot(@(x)cos(x),[0,2\*pi])

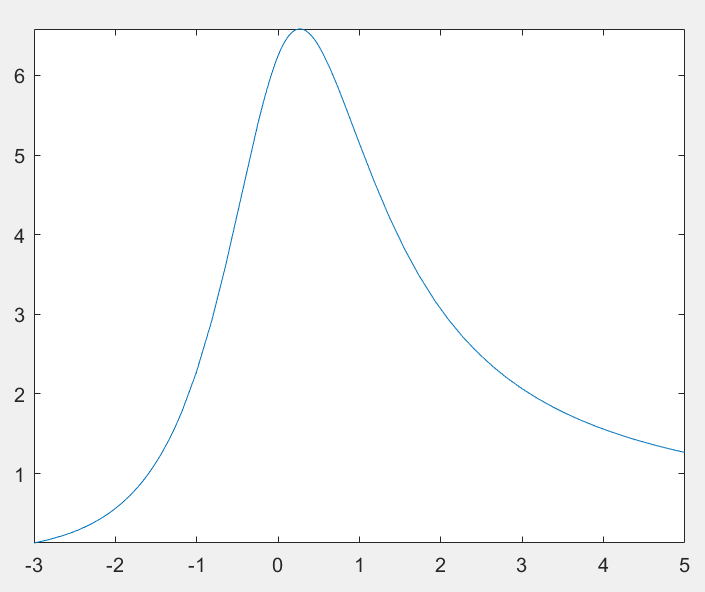


(c)>> fplot(@(x)tan(x),[0,2\*pi])



6.

>> fplot(@(x)(x+5).^2./(4+3.\*x.^2),[-3,5])



7.

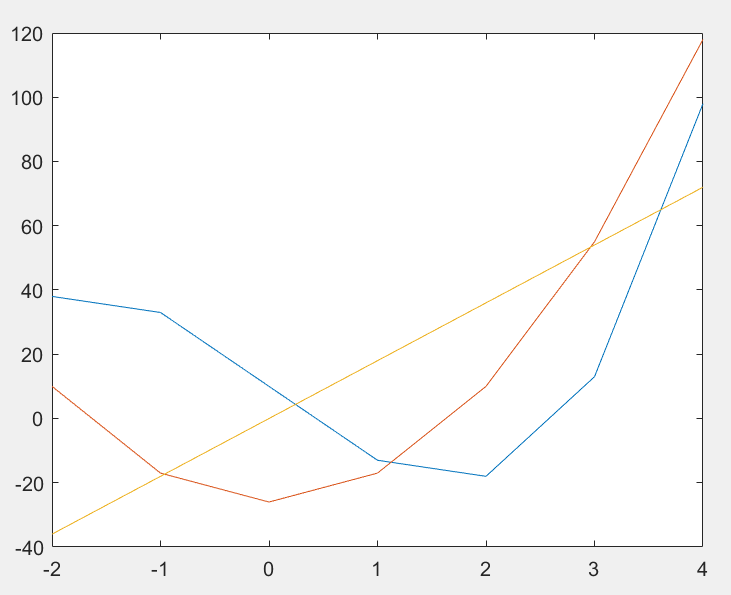
>>x=[-2:4];

y=3\*x.^3 - 26\*x + 10;

yd=9\*x.^2 - 26;

ydd=18\*x;

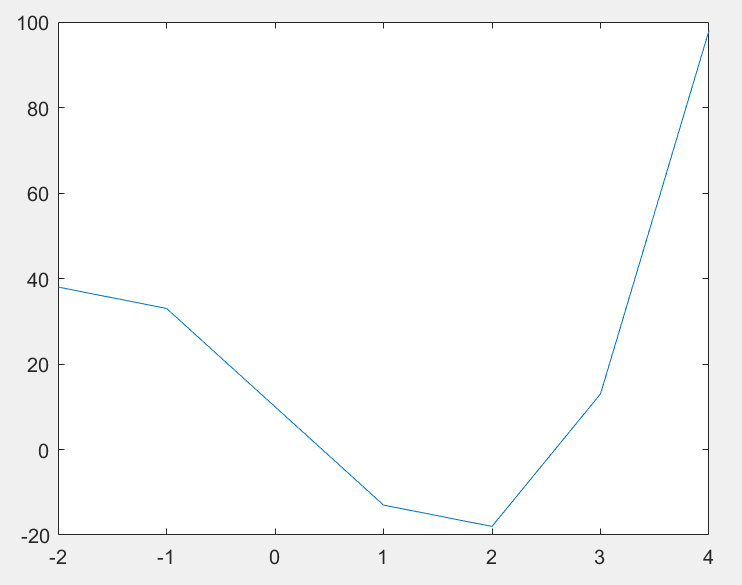
plot(x,y,x,yd,x,ydd)



8.

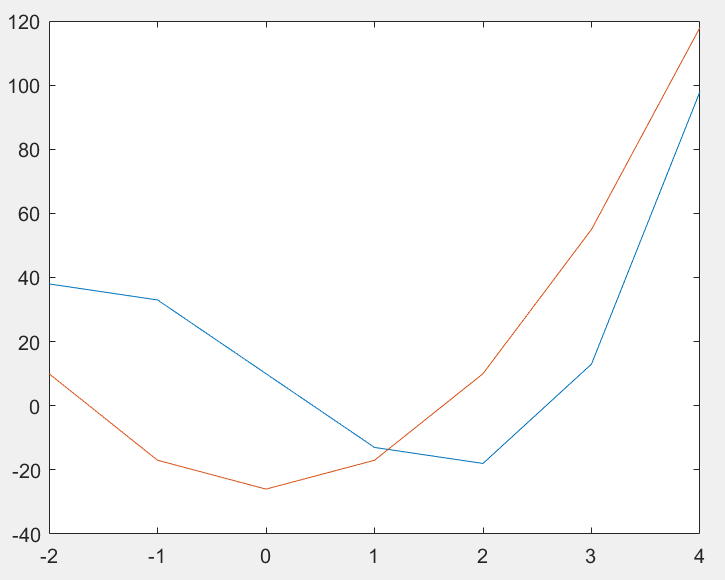
>> plot(x,y)

>> hold on



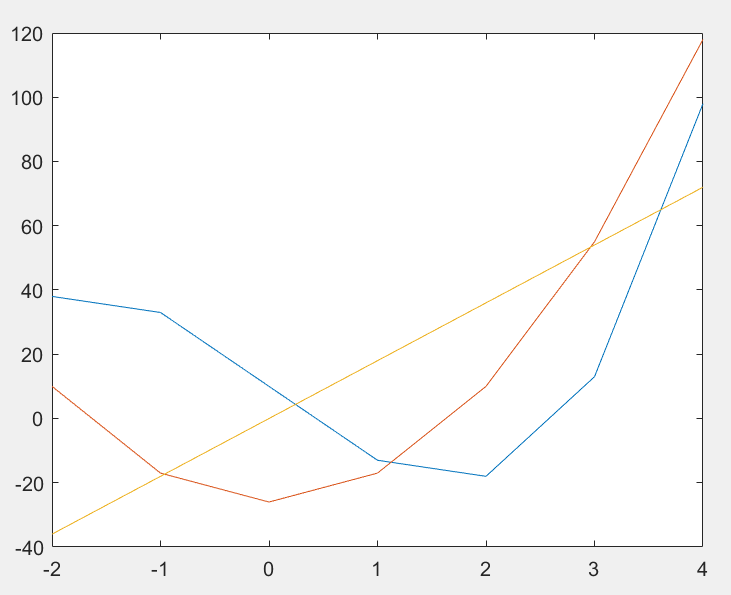
>> plot(x,yd)

>> hold on



>> plot(x,ydd)

>> hold off

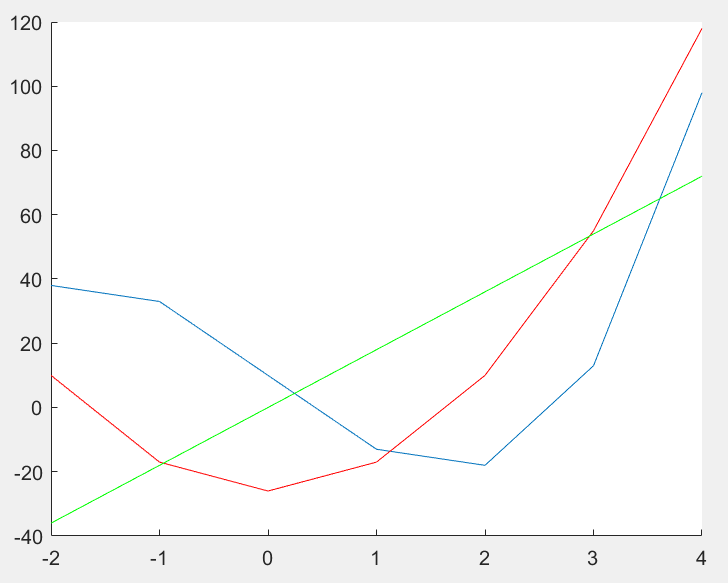


9.

>>line(x,y);

line(x,yd,'Color','red');

line(x,ydd,'Color','green')



10.

>>x=[10:0.1:22];

y=95000./x.^2;

xd=linspace(10,22,7);

yd=[950 640 460 340 250 180 140]

plot(x,y,'LineWidth',2)

xlabel('Distance (cm)');

ylabel('Intensity (flux)');

title('\fontname{Arial}Light Intensity as a Function of Distance')

axis([8,24,0,1200])

text(14,700,'Comparison between experiment and theory','EdgeColor','r','LineWidth',2)

hold on

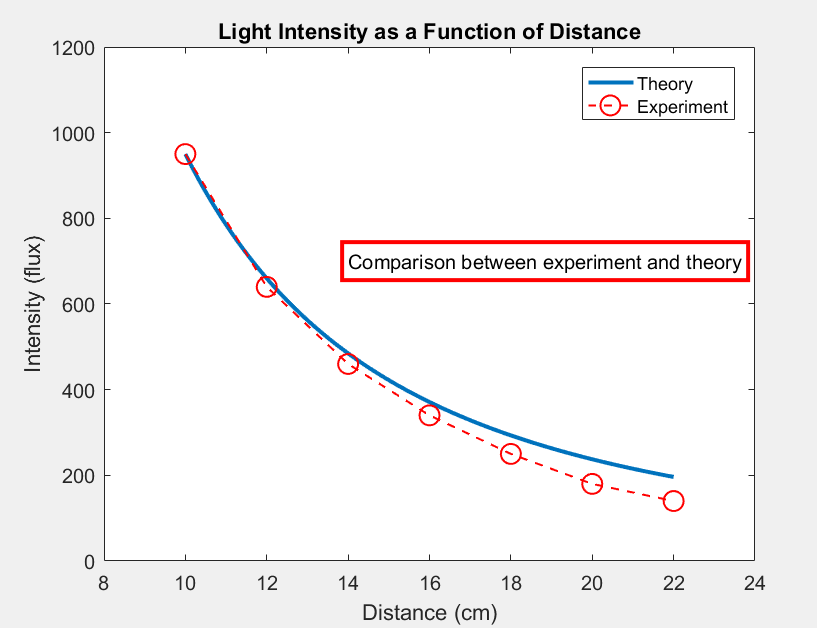
plot(xd,yd,'ro--','LineWidth',1,'MarkerSize',10)

legend('Theory','Experiment')

hold off

yd =

950 640 460 340 250 180 140



11.

>>x = linspace(0,100);

y1 = x.^2;

y2 = x.^3;

y3=log(x)

y4=1./x

subplot(4,1,1);

plot(x,y1)

subplot(4,1,2);

plot(x,y2)

subplot(4,1,3)

plot(x,y3)

subplot(4,1,4)

plot(x,y4)

**ans:**

y3 =

Columns 1 through 6

-Inf 0.0101 0.7032 1.1087 1.3963 1.6195

Columns 7 through 12

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Columns 97 through 100

4.5744 4.5848 4.5950 4.6052

y4 =

Columns 1 through 6

Inf 0.9900 0.4950 0.3300 0.2475 0.1980

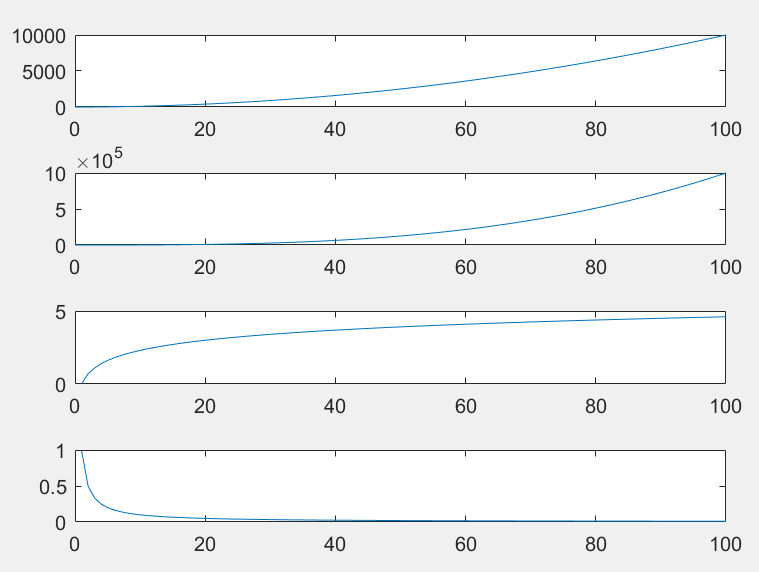
Columns 7 through 12

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Columns 97 through 100

0.0103 0.0102 0.0101 0.0100



12.

>>figure

fplot(@(x)(x+1).\*(x-2).\*(2.\*x-0.25)-exp(x),[0,3])

figure

fplot(@(x)(x+1).\*(x-2).\*(2.\*x-0.25)-exp(x),[-3,6])

