Chapter 2

1. Infinity begins at 2e308
2. >> A

A =

7 5

2 3

1 8

>> A(2,1)

ans =

2

>> ans\*2

ans =

4

>> B=A'

B =

7 2 1

5 3 8

>> B(1,3)

ans =

1

>> a = linspace(0,1,11)

a =

0 0.1000 0.2000 0.3000 0.4000 0.5000 0.6000 0.7000 0.8000 0.9000 1.0000

>> length(a)

ans =

11

>> size(a)

ans =

1 11

>> a(1,3)

ans =

0.2000

>> Prices=[10,20,30,40,50]

Prices =

10 20 30 40 50

>> Sales=[50;30;20;10;1]

Sales =

50

30

20

10

1

>> Revenue=Prices\*Sales

Revenue =

2150

1. Not dot; not commutative

>> C=eye(5,5)

C =

1 0 0 0 0

0 1 0 0 0

0 0 1 0 0

0 0 0 1 0

0 0 0 0 1

>> D=ones(5,5)

D =

1 1 1 1 1

1 1 1 1 1

1 1 1 1 1

1 1 1 1 1

1 1 1 1 1

>> E=(C+D)^2

E =

8 7 7 7 7

7 8 7 7 7

7 7 8 7 7

7 7 7 8 7

7 7 7 7 8

>> x=[2;1]

x =

2

1

>> y=x'\*17\*[1,0;0,1]

y =

34 17

>> A=[3,7;2,1]

A =

3 7

2 1

>> b=y\*A

b =

136 255

>> c=x'\*A'\*b'

c =

3043

>> E=c\*A'

E =

9129 6086

21301 3043

t =

Columns 1 through 20

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95

Column 21

100

>> q=length(t)

q =

21

>> q=(t\*(2+5)).^(1.7)

q =

1.0e+04 \*

Columns 1 through 12

0 0.0422 0.1370 0.2729 0.4451 0.6504 0.8867 1.1523 1.4460 1.7666 2.1131 2.4848

Columns 13 through 21

2.8809 3.3008 3.7440 4.2099 4.6981 5.2081 5.7396 6.2921 6.8654

>> A=[1,2,3,4;5,6,7,8;10,20,30,40;50,60,70,80]

A =

1 2 3 4

5 6 7 8

10 20 30 40

50 60 70 80

>> [r,c]=find(A<=20)

r =

1

2

3

1

2

3

1

2

1

2

c =

1

1

1

2

2

2

3

3

4

4

>> A(3,:)=17

A =

1 2 3 4

5 6 7 8

17 17 17 17

50 60 70 80

>> A(:,2)=2

A =

1 2 3 4

5 2 7 8

17 2 17 17

50 2 70 80

1. A



>> x=(0:0.1:20);

>> y=sin(x);

>> plot(x,y)





>> x=(0:0.1:20);

>> y=sin(x);

>> plot(x,y)

>> hold on

>> plot(x,y,'color','c')

>> plot(x,y,'color','m')

1. A



>> results=[55,30,10,5]

results =

55 30 10 5

>> bar(results)

>> h=bar(results)

h =

Bar with properties:

BarLayout: 'grouped'

BarWidth: 0.8000

FaceColor: 'flat'

EdgeColor: [0 0 0]

BaseValue: 0

XData: [1 2 3 4]

YData: [55 30 10 5]

Show all properties

>> set(h,'linewidth',3)

>> set(h,'FaceColor',[1,1,1])

1. Program Run
2. A

>> ii=50

ii =

50

>> while ii<1050

ii=ii+50

end

ii =

100

ii =

150

ii =

200

ii =

250

ii =

300

ii =

350

ii =

400

ii =

450

ii =

500

ii =

550

ii =

600

ii =

650

ii =

700

ii =

750

ii =

800

ii =

850

ii =

900

ii =

950

ii =

1000

ii =

1050

>> ii=1

ii =

1

>> while ii<1000000

ii=ii+1000

end

>> ii

ii =

1000001

>> figure

>> x=0:0.1:20;

>> x=0:0.1:20;

y=sin(x);

k=1;

while k<3;

QUILT1(1,:)=x;

QUILT2(1,:)=y;

QUILT1(2,:)=x;

QUILT2(2,:)=-y;

QUILT1(3,:)=-x;

QUILT2(3,:)=y;

QUILT1(4,:)=-x;

QUILT2(4,:)=-y;

hold on

for ii=1:4

plot(QUILT1(ii,:),QUILT2(ii,:))

pause

end

for ii=1:4

plot(QUILT2(ii,:),QUILT1(ii,:))

pause

end

y=y+19;

k=k+4;

end



If k=3;



1. Increments change

>> plot(QUILT2(ii,:),QUILT1(ii,:),'m')



>> figure

>> for ii=1:9

subplot(3,3,ii)

h=bar(1,1);

set(h,'FaceColor',[0 0 ii/9]);

end



1. Change Color

>> a=-2:0.2:2;

>> [x,y]=meshgrid(a,a);

>> z=exp(-x.^2-y.^2);

>> figure

>> subplot(1,2,1)

>> mesh(z)

>> subplot(1,2,2)

>> surf(z)







>> figure

>> hold on;

>> xlim([0,1])

>> ylim([0,1])

>> for ii=1:5

a = ginput(2);

plot(a(:,1),a(:,2));

end

1. Ten Lines:

>> for ii=1:10

a = ginput(2);

plot(a(:,1),a(:,2));

end



>> P=[];

a0=6000;

m0=0;

w0=300;

P(1,:)=[m0,w0,a0];

figure

plot(0,a0,'.','markersize',24);

hold on;

xlim([0 25])

ii=1;

while ii < 25

P

a=input('How many workers this month?')

b=20\*a-a0

a0=b;

plot(ii,a0,'.','markersize',24);

plot(ii+1,:)=[ii,a,b];

plot(P(:,1),P(:,3),'color','k');

ii=ii+1;

end

P =

0 300 6000

How many workers this month?

1. Graph.
2. Graph.
3. Graph.

>> h=@sin

h =

@sin

>> feval(h,[0 pi/2 pi 3/2\*pi 2\*pi])

ans =

0 1.0000 0.0000 -1.0000 -0.0000

>> fplot(h,[0 2\*pi])



1. A

>> h=@sin

h =

@sin

>> feval(h,[0 pi/2 pi 3/2\*pi 2\*pi])

ans =

0 1.0000 0.0000 -1.0000 -0.0000

>> fplot(h,[0 2\*pi])

>> vice(h,0,pi)

ans =

2.0000

>> vice(h,0,2\*pi)

ans =

0

>> vice(h,0,pi/2)

ans =

1.0000

>> q=@(x)x.^5-9.\*x^4+8.\*x^3-2.\*x.^2+x+500;

>> fplot(q,[0 10])

