clc

a=[1 3 ; 2 1]

a =

1 3

2 1

whos

Name Size Bytes Class Attributes

a 2x2 32 double

a(1,2)

ans =

3

a(1,1)

ans =

1

a(2,1:2)

ans =

2 1

a(2,:)

ans =

2 1

a(:,1)

ans =

1

2

a(2:-1:1,:)

ans =

2 1

1 3

zeros(3) % zeros(3,3)

ans =

0 0 0

0 0 0

0 0 0

ones(3) % ones(3,3)

ans =

1 1 1

1 1 1

1 1 1

eye(3)

ans =

1 0 0

0 1 0

0 0 1

eye(3,2)

ans =

1 0

0 1

0 0

magic(3)

ans =

8 1 6

3 5 7

4 9 2

rand(1)

ans =

0.8147

rand(2)

ans =

0.9058 0.9134

0.1270 0.6324

a

a =

1 3

2 1

a(2:-1:1,:)

ans =

2 1

1 3

flipud(a)

ans =

2 1

1 3

a

a =

1 3

2 1

fliplr(a)

ans =

3 1

1 2

rot90(a)

ans =

3 1

1 2

a

a =

1 3

2 1

det(a)

ans =

-5

a\*a

ans =

7 6

4 7

a

a =

1 3

2 1

b=a\*a

b =

7 6

4 7

b^0.5

ans =

2.4495 1.2247

0.8165 2.4495

ans\*ans

ans =

7.0000 6.0000

4.0000 7.0000

clc

a

a =

1 3

2 1

a(4,3)

{??? Index exceeds matrix dimensions.

}

a(4,3)=5

a =

1 3 0

2 1 0

0 0 0

0 0 5

a(2:2:4,3:-1:1)

ans =

0 1 2

5 0 0

a(2:2:end,3:-1:1)

ans =

0 1 2

5 0 0

length(a)

ans =

4

[f c]=size(a)

f =

4

c =

3

a

a =

1 3 0

2 1 0

0 0 0

0 0 5

a=[a ; 6 2 1]

a =

1 3 0

2 1 0

0 0 0

0 0 5

6 2 1

a=[a [9 2 3 2 1]']

a =

1 3 0 9

2 1 0 2

0 0 0 3

0 0 5 2

6 2 1 1

a=[a [1 10 2 2 1]']

a =

1 3 0 9 1

2 1 0 2 10

0 0 0 3 2

0 0 5 2 2

6 2 1 1 1

a(:,3)=[]

a =

1 3 9 1

2 1 2 10

0 0 3 2

0 0 2 2

6 2 1 1

a(1:2:end,[2 3])

ans =

3 9

0 3

2 1

a(1:2:end,:)=[]

a =

2 1 2 10

0 0 2 2

a(4,4)=8

a =

2 1 2 10

0 0 2 2

0 0 0 0

0 0 0 8

a(3,:)=4

a =

2 1 2 10

0 0 2 2

4 4 4 4

0 0 0 8

a([2 4],[1 2])=5

a =

2 1 2 10

5 5 2 2

4 4 4 4

5 5 0 8

max(a)

ans =

5 5 4 10

min(a)

ans =

2 1 0 2

a

a =

2 1 2 10

5 5 2 2

4 4 4 4

5 5 0 8

sum(a)

ans =

16 15 8 24

prod(a)

ans =

200 100 0 640

sum(sum(a))

ans =

63

mean(a)

ans =

4.0000 3.7500 2.0000 6.0000

sort(a)

ans =

2 1 0 2

4 4 2 4

5 5 2 8

5 5 4 10

a

a =

2 1 2 10

5 5 2 2

4 4 4 4

5 5 0 8

cumsum(a)

ans =

2 1 2 10

7 6 4 12

11 10 8 16

16 15 8 24

cumprod(a)

ans =

2 1 2 10

10 5 4 20

40 20 16 80

200 100 0 640

clc

a=zeros(7)

a =

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

a(2:2:end,1:4:end)=1

a =

0 0 0 0 0 0 0

1 0 0 0 1 0 0

0 0 0 0 0 0 0

1 0 0 0 1 0 0

0 0 0 0 0 0 0

1 0 0 0 1 0 0

0 0 0 0 0 0 0

a(2:2:end,2:4:end)=1

a =

0 0 0 0 0 0 0

1 1 0 0 1 1 0

0 0 0 0 0 0 0

1 1 0 0 1 1 0

0 0 0 0 0 0 0

1 1 0 0 1 1 0

0 0 0 0 0 0 0

a(1:2:end,3:4:end)=1

a =

0 0 1 0 0 0 1

1 1 0 0 1 1 0

0 0 1 0 0 0 1

1 1 0 0 1 1 0

0 0 1 0 0 0 1

1 1 0 0 1 1 0

0 0 1 0 0 0 1

a(1:2:end,4:4:end)=1

a =

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

a=zeros(7)

a =

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

0 0 0 0 0 0 0

a=zeros(7);

a(2:2:end,1:4:end)=1;

a(2:2:end,2:4:end)=1;

a(1:2:end,3:4:end)=1;

a(1:2:end,4:4:end)=1

a =

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

1 1 0 0 1 1 0

0 0 1 1 0 0 1

a(3,3)

ans =

1

a(17)

ans =

1

clc

b=zeros(5)

b =

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

b(1:2:end,1:2:end)=1

b =

1 0 1 0 1

0 0 0 0 0

1 0 1 0 1

0 0 0 0 0

1 0 1 0 1

b(2:2:end,2:2:end)=1

b =

1 0 1 0 1

0 1 0 1 0

1 0 1 0 1

0 1 0 1 0

1 0 1 0 1

b=zeros(5)

b =

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

0 0 0 0 0

b(1:2:end)=1

b =

1 0 1 0 1

0 1 0 1 0

1 0 1 0 1

0 1 0 1 0

1 0 1 0 1

diary off

A=[10 12 13 9; 10 18 15 13

14 20 18 19

14 5 20 13]

%Las filas son por alumnos, las columnas por cada práctica

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

%promedio de practica del salon

mean(A)

ans =

12.0000 13.7500 16.5000 13.5000

[f c]=size(A)

f =

4

c =

4

sum(A)/f

ans =

12.0000 13.7500 16.5000 13.5000

%promedio por alumno sin eliminar pcs

A'

ans =

10 10 14 14

12 18 20 5

13 15 18 20

9 13 19 13

mean(A')

ans =

11.0000 14.0000 17.7500 13.0000

mean(A')'

ans =

11.0000

14.0000

17.7500

13.0000

%promedio por alumno eliminando menor

((sum(A')-min(A'))/(c-1))'

ans =

11.6667

15.3333

19.0000

15.6667

% de aprobados en cada practica

A

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

A>=10

ans =

1 1 1 0

1 1 1 1

1 1 1 1

1 0 1 1

sum(A>=10)/f\*100

ans =

100 75 100 75

A(2,3)=5

A =

10 12 13 9

10 18 5 13

14 20 18 19

14 5 20 13

A(10)=15

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

B=A

B =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

B(3:3:(f\*c))=0

B =

10 12 0 9

10 0 15 13

0 20 18 0

14 5 0 13

B=A

B =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

B(1:2:3,2:2:4)=0

B =

10 0 13 0

10 18 15 13

14 0 18 0

14 5 20 13

A

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

p=((sum(A')-min(A'))/(c-1))'

p =

11.6667

15.3333

19.0000

15.6667

p=((sum(A')-min(A'))/(c-1))'

p =

11.6667

15.3333

19.0000

15.6667

% alumno con mayor promedio

[m i]=max(p)

m =

19

i =

3

A

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

% que alumno y que nota fue el mejor

%cada practica

[m i] = max(A)

m =

14 20 20 19

i =

3 3 4 3

%que alumno y que nota saco la pc mas alta

find(A==max(max(A)))

ans =

7

12

[f c]=find(A==max(max(A)))

f =

3

4

c =

2

3

clc

%redondeos

%round(x), fix(x), floor(x), ceil(x)

%equivalente a: redondear.mas(3.1416,3) del Excel

x=pi

x =

3.1416

ceil(x\*1000)/1000

ans =

3.1420

A

A =

10 12 13 9

10 18 15 13

14 20 18 19

14 5 20 13

A(3,:)=[]

A =

10 12 13 9

10 18 15 13

14 5 20 13

A(:,2)=[]

A =

10 13 9

10 15 13

14 20 13