

```
% Matriz multiplicada por escalar
```

```
clear, clc
```

```
A = [ 0 1 2 ;  
      3 4 5 ;  
      6 7 8 ];
```

```
renglones = 3;
```

```
columnas = 3;
```

```
escalar=input('Escalar que se multiplicará a la matriz = ');
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        A(ren, col) = A(ren, col)*escalar;  
    end  
end
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        fprintf('%d %n ', A(ren, col) )  
    end  
    fprintf('\n');  
end
```

Command Window

```
Escalar que se multiplicará a la matriz =  
12  
0 12 24  
36 48 60  
72 84 96  
>>
```

```
% Suma de matrices
```

```
clear,clc
```

```
A = [ 0 1;  
      2 3];
```

```
B = [ 8 7;  
      6 9];
```

```
C = [0 0;  
      0 0];
```

```
renglones=2;
```

```
columnas=2;
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        C(ren, col) = A(ren, col) + B(ren,col);  
    end  
end
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        fprintf('%d ', C(ren, col) )  
    end  
    fprintf('\n');  
end
```

Command Window

```
8 8
```

```
8 12
```

```
>>
```

```
% Diagonal principal
```

```
clear, clc
```

```
A = [-1 7 0 17;  
     12 -3 8 6;  
     2 9 3 -4;  
     15 6 1 0];
```

```
renglones=4;
```

```
columnas=4;
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        if (ren==col)  
            fprintf('%d \t', A(ren,col));  
        end  
    end  
end  
end
```

Command Window

```
-1  -3  3   0  
>>
```

```
% Suma de elementos de diagonal
```

```
clear, clc
```

```
A = [ 0 1 2 ;  
      3 4 5 ;  
      6 7 10 ];
```

```
renglones=3;
```

```
columnas=3;
```

```
traza=0;
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        if (ren==col)  
            traza=traza+A(ren,col);  
        end  
    end  
end
```

```
fprintf('traza = %d \t', traza );
```

Command Window

```
traza = 14
```

```
>>
```

```
% Matriz triangular superior
```

```
clear, clc
```

```
A = [1 2 3 4 5;  
     6 7 8 9 10;  
     1 2 3 4 5;  
     6 7 8 9 10;  
     1 2 3 4 5];
```

```
renglones=5;
```

```
columnas=5;
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        if (ren>col)  
            A(ren, col) = 0;  
        end  
    end  
end
```

```
% impresion de A
```

```
for ren=1: renglones;  
    for col=1:columnas;  
        fprintf('%d \t', A(ren,col));  
    end  
    fprintf('\n');  
end
```

Command Window

```
1   2   3   4   5  
0   7   8   9  10  
0   0   3   4   5  
0   0   0   9  10  
0   0   0   0   5  
>>
```

```
% Matriz diagonal
```

```
clear, clc
```

```
A = [-1 7 0 17;  
      12 -3 8 6;  
      2 9 3 -4;  
      15 6 1 9];
```

```
renglones=4;
```

```
columnas=4;
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        if (ren~=col)  
            A(ren,col)=0;  
        end  
    end  
end
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        fprintf('%d \t',A(ren,col));  
    end  
    fprintf('\n');  
end
```

Command Window

```
1    0    0    0    0  
6    7    0    0    0  
1    2    3    0    0  
6    7    8    9    0  
1    2    3    4    5
```

```
>>
```

```
% Matriz identidad
```

```
clear, clc
```

```
A = [1 7 0 30;  
     12 -2 8 6;  
     2 9 7 4;  
     5 6 100 9];
```

```
renglones=4;
```

```
columnas=4;
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        if (ren~=col)  
            A(ren,col)=0;  
        else  
            A(ren,col)=1;  
        end  
    end  
end
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        fprintf('%d \t', A(ren,col));  
    end  
    fprintf('\n');  
end
```

Command Window

```
1    0    0    0  
0    1    0    0  
0    0    1    0  
0    0    0    1  
>>
```

```
% matriz Escalar con el valor capturado
```

```
clear, clc
```

```
A = [1 7 0 30;  
     12 -2 8 6;  
     2 9 7 4;  
     5 6 100 9];
```

```
renglones=4;
```

```
columnas=4;
```

```
valor=input('Ingresa valor: ')
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        if (ren~=col)  
            A(ren,col)=0;  
        else  
            A(ren,col)=valor;  
        end  
    end  
end
```

```
for ren=1:renglones;  
    for col=1:columnas;  
        fprintf('%d \t',A(ren,col));  
    end  
    fprintf('\n')  
end
```

Command Window

Ingresa valor:

-1000

valor =

-1000

-1000 0 0 0

0 -1000 0 0

0 0 -1000 0

0 0 0 -1000

>> |