

1. $\text{idn} = \text{eye}(2) =$

```
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
```

2. If $MA = 3 \times 4$ matrix, then $D = \text{ma}(1,3:2,3]$ means selecting row 1 to 3 and selecting column 2 to 3 to create matrix D
3. If $MA = 2 \times 3$ matrix, then $MA(2,3)$ = the element in row 2 and column 3)
4. **A vector is a single line in either direction, a matrix is a sized shape involving both rows and columns**
5. **For a vector, the separation tool is a : (between elements)**
6. **For a matrix, the separation tool between rows and columns is ;**
7. **For a matrix the separation tool between elements is a : or , or nothing**

FOR A VECTOR

- a. If $dv =$ row vector or a column vector (**single line, not a matrix**), then $dv(:)$ refers to all the elements
- b. If $dv =$ row vector or a column vector (**single line, not a matrix**), then $u = dv(2:8)$ means all the elements in dv from 2nd to 8th

FOR A MATRIX

- c. Matrix A

$A(:,n)$ Refers to the elements in all the rows, and column n

$A(n,:)$ Refers to the elements in row n and all the columns

$A(:,m:n)$ Refers to the elements in all the rows and between column m and n

$A(m:n,:)$ Refers to the elements in rows between m and n and all the columns

$A(m:n,p:q)$ Refers to the elements in rows between m and n and in columns between p and q

8. To add, subtract or change an element in either a matrix or vector, simply determine the element or the placement of the change and make it equal to the wanted change
9. When using two arrays, they must both have the same dimensions (number of rows and number of columns)