Matrix Manupulation

matrix element can be real or imaginary
matrix with one row or one column is called vector
matrix having one element is called scalar

⇒ var A can be scalar, vector or matrix

entry of all elements inside [ ]
Rows are separated by ;

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

Another use of ; is suppressing the output

$$= \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

To extract element

```
C = A(i,j)
```
ith row, jth column

To replace any element

```
A(i,j) = k
```
ith row, jth column

Extract sub matrix

```
C = A(:,j)  or  C = A(i,:)
```

Extract all the elements of all rows and columns b/w a and b

```
c = A(:, a:b)
```

Similarly

```
c = A(a:b, :)
```

Extract elements of selective rows and columns

```
c = A([a,b,c], [p q r])
```

Adding Rows

A is a matrix
u is Row vector of dimension
A = [A; u] adds one Row in A

Adding columns

A is matrix
v is Column vector
A = A[A v] adds one column ~~with null~~

Deleting rows

Select rows you want to delete
Equate them to the null matrix = [ ]

⇒ Cannot delete particular ~~row~~ element
only specific rows or columns