```
clc;
clear all;
close all;

A = input('Enter the Matrix A :');
B = input('Enter the Matrix B :');

%displaying two matrices
disp('The Matrix A is : ');
disp(A);
disp('The Matrix B is : ');
disp(B);

%%%% Find the size of matrices
disp('The size of Matrix A is : ');
disp(size(A));
disp('The size of Matrix B is : ');
disp(size(B));

%%% Find the length of vector
P = length(A);
Q = length(B);

%%%% Addition of two matrices

disp('Addition of A and B Matrices is : ');
disp(A + B);

%%%%% Subtration of two matrices
disp('Subtraction of A and B Matrices is : ');
disp(A - B);

%%%%% Multiplication (ELEMENT BY ELEMENT) of two matrices
```

```
disp('Element wise Multiplication of A and B Matrices is : ');
disp(A .* B);

%%%%% Multiplication of two matrices
disp('Multiplication of A and B Matrices is : ');
disp(A * B);

%%%%% Division (ELEMENT BY ELEMENT) of two matrices
disp('Element wise Division of A and B Matrices is : ');
disp(A ./ B);

%%%%% Division of two matrices
disp('Division of A and B Matrices is : ');
disp(A / B);

%%%%% Division of two matrices
disp('Division of A and B Matrices is : ');
disp(A \ B);

% Finding the Identity matrix of order 4
disp('Identity matrix of order 4 is :');
disp(eye(4));

% Finding the transpose of the matrix
disp('Transpose of Matrix A is :');
disp(A');

% Finding the Rank of the matrix
disp('Rank of Matrix A is :');
disp(rank(A));

% Find the determinent of the matrix
disp('Determinent of Matrix A is :');
```

```
disp(det(A));



% Find the trace of the matrix
disp('Trace of Matrix A is :');
disp(trace(A));



% Find the diagonal of the matrix
disp('Diagonal of Matrix A is :');
disp(diag(A));

% Find the eigen values of the matrix A
disp('eigen values of the matrix A are :');
disp(eig(A));

% Find the Inverse of the matrix

disp('Inverse of Matrix A is :');
disp(inv(A));

% disp(' create a submatrix from matrix A');
% C=A(2:3,2:3);
% disp(C);

disp(' the matrix with all elements as ones');
D=ones(3,4);
disp(D);

disp(' the matrix with all elements as ZEROS');
E=zeros(3,4);
disp(E);
```

```
disp('Random matrix');
F=rand(5,6);
disp(F);

disp(' upper triangular part of a matrix');
disp(triu(F));

disp('lower triangular part of a matrix');
disp(tril(F));

disp('maximum value in the random matrix F');
disp(max(max(F)));

disp('minimum value in the random matrix F');
disp(min(min(F)));
```