

INTRODUCTION TO MATLAB

Name: Om Ashish Mishra

Reg.no.: 16BCE0789

INTRODUCTION TO MATLAB

Experiment -1

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1. Take any matrix A of order 3x3 and perform the following through mat lab.
 - (a) Find the element (1,1), (2,3) and (3,1).
 - (b) Find the transpose of the matrix.
 - (c) Find determinant of the matrix.
 - (d) Find the adjoint of the given matrix.
2. Draw the graph of the function x^2 using plot command and ezplot command.

New Commands

plot(x,y) : Its used for plotting points with respect to x and y axis.

ezplot(fun) : plots the expression $\text{fun}(x)$ over the default domain $-2\pi < x < 2\pi$, where $\text{fun}(x)$ is an explicit function of only x. fun can be a function handle or a character vector.

transpose(x) : its helps transposing a matrix

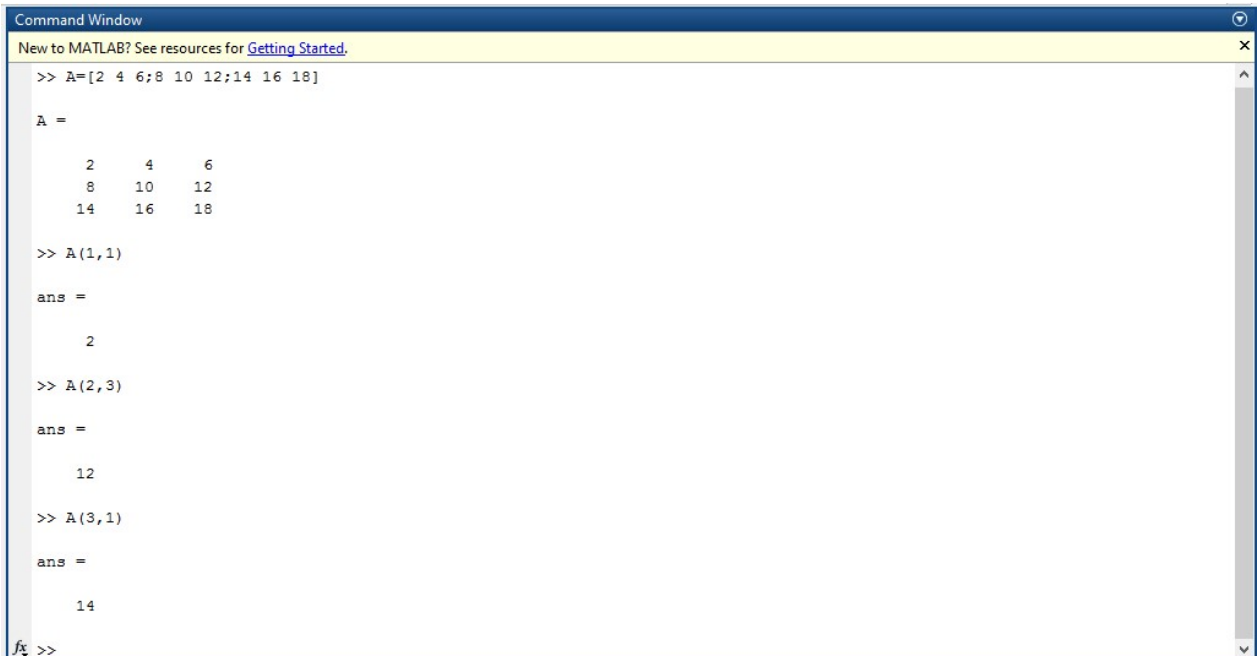
adjoint(x) : its used for adjoint finding

det(x) : it is used to find determinant for a matrix in matlab

Solutions

Ans 1:

(a)



A screenshot of the MATLAB Command Window. The window title is "Command Window". Below the title bar is a yellow banner that says "New to MATLAB? See resources for [Getting Started.](#)". The command prompt shows the following sequence of commands and outputs:

```
>> A=[2 4 6;8 10 12;14 16 18]

A =

     2     4     6
     8    10    12
    14    16    18

>> A(1,1)

ans =

     2

>> A(2,3)

ans =

    12

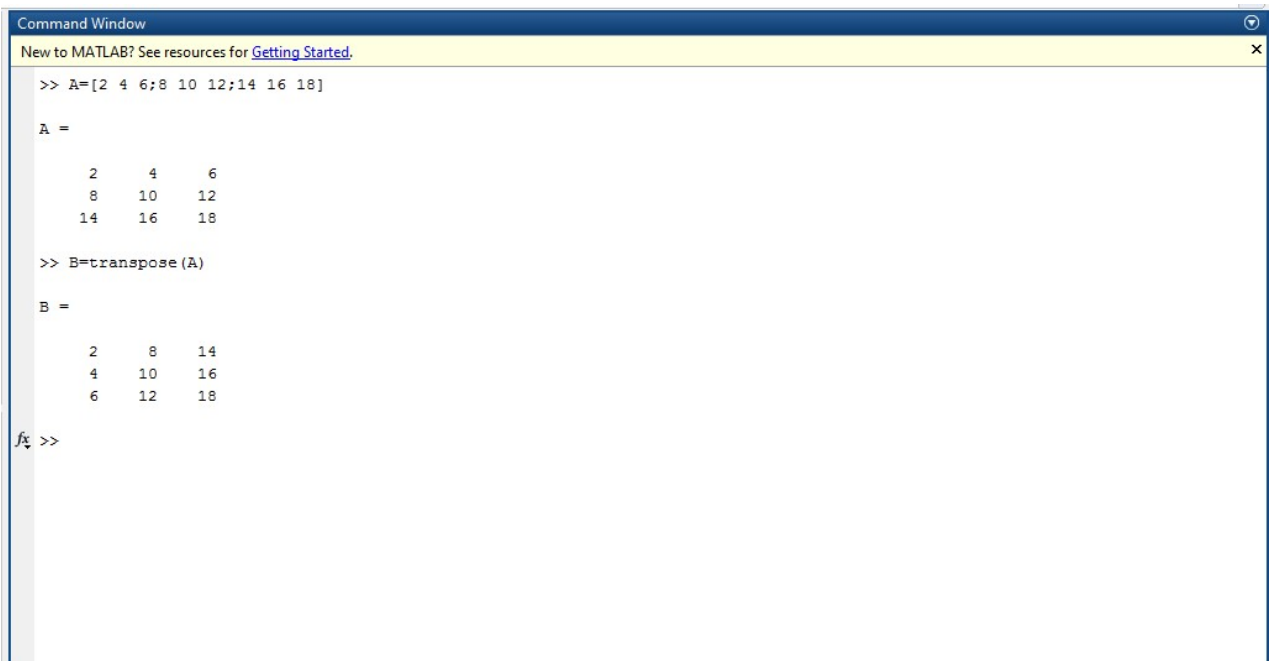
>> A(3,1)

ans =

    14
```

At the bottom left, there is a cursor icon and the prompt "fx >>".

(b)



A screenshot of the MATLAB Command Window. The window title is "Command Window". Below the title bar is a yellow banner that says "New to MATLAB? See resources for [Getting Started.](#)". The command prompt shows the following sequence of commands and outputs:

```
>> A=[2 4 6;8 10 12;14 16 18]

A =

     2     4     6
     8    10    12
    14    16    18

>> B=transpose(A)

B =

     2     8    14
     4    10    16
     6    12    18
```

At the bottom left, there is a cursor icon and the prompt "fx >>".

(c)



A screenshot of the MATLAB Command Window. The title bar reads "Command Window". Below it is a yellow banner with the text "New to MATLAB? See resources for [Getting Started.](#)". The command history shows the following: `>> import sym`, `>> A=sym([2 4 6;8 10 12;14 16 18])`. The output for `A` is a 3x3 matrix: `A =`
`[2, 4, 6]`
`[8, 10, 12]`
`[14, 16, 18]`. The next command is `>> det(A)`, and the output is `ans =`
`0`. The cursor is at the prompt `>>` on the next line.

```
Command Window
New to MATLAB? See resources for Getting Started.
>> import sym
>> A=sym([2 4 6;8 10 12;14 16 18])

A =

[ 2, 4, 6]
[ 8, 10, 12]
[ 14, 16, 18]

>> det(A)

ans =

0

fx >>
```

(d)



A screenshot of the MATLAB Command Window. The title bar reads "Command Window". Below it is a yellow banner with the text "New to MATLAB? See resources for [Getting Started.](#)". The command history shows the following: `>> import sym`, `>> A=sym([2 4 6;8 10 12;14 16 18])`. The output for `A` is a 3x3 matrix: `A =`
`[2, 4, 6]`
`[8, 10, 12]`
`[14, 16, 18]`. The next command is `>> X=adjoint(A)`, and the output is `X =`
`[-12, 24, -12]`
`[24, -48, 24]`
`[-12, 24, -12]`. The cursor is at the prompt `>>` on the next line.

```
Command Window
New to MATLAB? See resources for Getting Started.
>> import sym
>> A=sym([2 4 6;8 10 12;14 16 18])

A =

[ 2, 4, 6]
[ 8, 10, 12]
[ 14, 16, 18]

>> X=adjoint(A)

X =

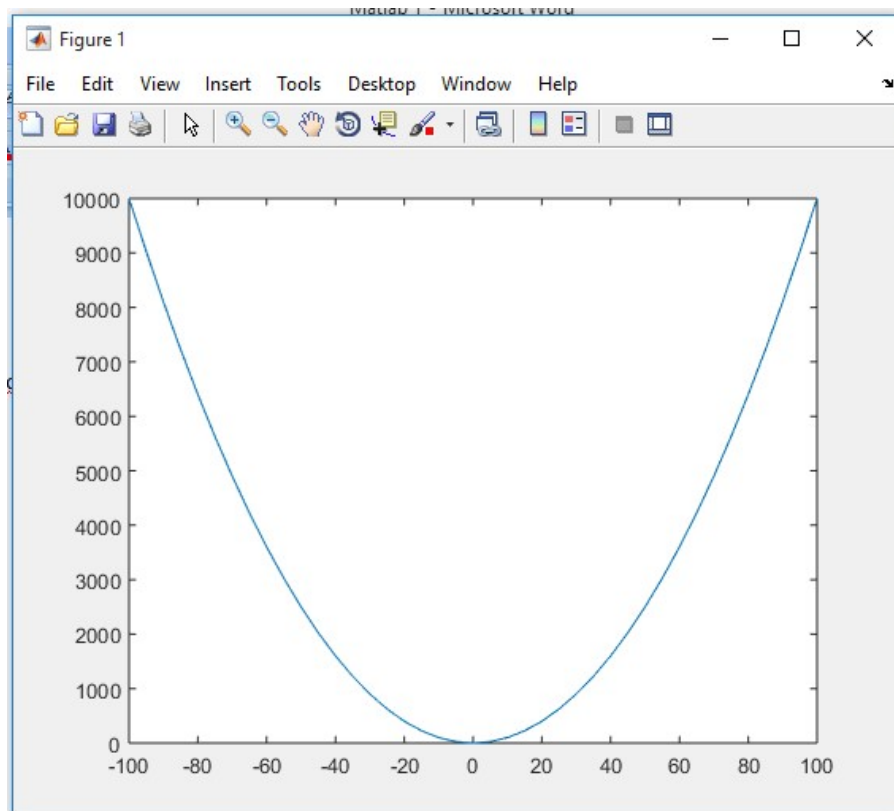
[ -12, 24, -12]
[ 24, -48, 24]
[ -12, 24, -12]

fx >> |
```

Ans 2:

Using plot command:

```
Command Window
New to MATLAB? See resources for Getting Started.
>> x = [-100:5:100];
>> y = x.^2;
>> plot(x,y)
fx >>
```



Using ezplot command:

```
Command Window
New to MATLAB? See resources for Getting Started.
>> syms x
>> ezplot(x^2)
fx >>
```

