

MATLAB assessment

by Leighton Bowd

Submission date: 17-Mar-2026 02:56PM (UTC+0000)

Submission ID: 277572345

File name: 53354_Leighton_Bowd_MATLAB_assessment_732317_1748430094.docx (63.17K)

Word count: 306

Character count: 1094

Application of Maths using Matlab ACDB4003

Leighton Bowd (2320479)

1)

```
>> x = 2.0
```

x =

2

```
>> y = 3.0
```

y =

3

```
>> 3*x^2-2*y^3
```

ans =

-42

```
>> log(x*y)
```

ans =

1.7918

```
>> sqrt(x/y)
```

```
ans =
```

```
0.8165
```

```
>> exp(y)
```

```
ans =
```

```
20.0855
```

```
>> exp(-x)+log10(y)
```

```
ans =
```

```
0.6125
```

2)

```
>> clear all
```

```
>> fplot('exp(-x)', [0,4])
```

Warning: fplot will not accept character vector or string inputs in a future release. Use `fplot(@(x)exp(-x))` instead.

> In [fplot](#) (line 125)

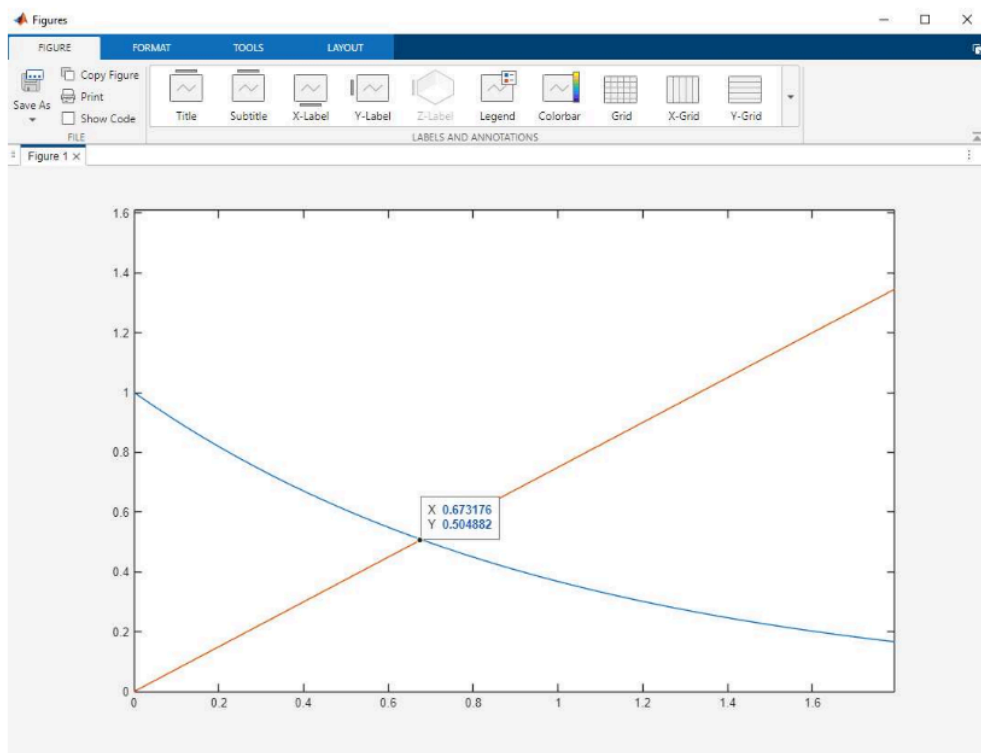
```
>> hold
```

Current plot held

```
>> fplot('0.75*x', [0,4])
```

Warning: fplot will not accept character vector or string inputs in a future release. Use `fplot(@(x)0.75*x)` instead.

> In [fplot](#) (line 125)



3)

```
>> clear all
```

```
>> syms x
```

```
>> solve(x^3-6*x^2+11*x-6)
```

ans =

1

2

3

4)

```
>> clear all
```

```
>> x=[1.0 2.0 3.0 4.0 5.0 6.0]
```

x =

1 2 3 4 5 6

```
>> y=[4.1 6.7 9.9 13.3 16.4 19.3]
```

y =

4.1000 6.7000 9.9000 13.3000 16.4000 19.3000

```
>> p = polyfit(x,y,1)
```

p =

3.1000 0.7667

```
>> y1 = polyval(p,4.5)
```

y1 =

14.7167

5)

```
>> clear all
```

```
>> syms x
```

```
>> y = sin(6*x)
```

y =

sin(6*x)

```
>> y2 = diff(y,2)
```

y2 =

-36*sin(6*x)

```
>> y2 + 36*y
```

ans =

0

6)

```
>> clear all
```

```
>> a = [2 -2 3]
```

```
a =
```

```
2 -2 3
```

```
>> b = [2 -3 2]
```

```
b =
```

```
2 -3 2
```

```
>> dot(a,b)
```

```
ans =
```

```
16
```

```
>> cross(a,b)
```

```
ans =
```

```
5 2 -2
```

7)

```
>> clear all
```

```
>> A = [1 1 2; 1 2 1; 3 -1 -1]
```

A =

1 1 2

1 2 1

3 -1 -1

```
>> det(A)
```

ans =

-11.0000

```
>> inv(A)
```

ans =

0.0909 0.0909 0.2727

-0.3636 0.6364 -0.0909

0.6364 -0.3636 -0.0909

8)

```
>> B = [4; 4; 1]
```

B =

4

4

1

```
>> solutions = inv(A)*B
```

```
solutions =
```

```
1.0000
```

```
1.0000
```

```
1.0000
```

```
>>
```

MATLAB assessment

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

95/100

Matlab Assessment Feedback

-

Q1 Evaluating functional expressions [10 marks]

All expressions evaluated correctly [10 marks]

Q2 Plotting graphs and solving non-linear simultaneous equations

[12 marks]

A key would be useful and perhaps zoom in until lines are approx. straight for more accurate solution.

[10 marks]

Q3 Solving cubic equations

[8 marks]

All correct, may have been nice to say $x=1,2,3$ and assign the variables.

[7 marks]

Q4 Least Squares line of best fit through a data set, and interpolating a value [12 marks]

All correct [12 marks]

Q5 Showing a function is a solution to a differential equation [10 marks]

All correct [10 marks]

Q6 Finding the dot and cross product of vectors in 3D [10 marks]

All correct [10 marks]

Q7 Finding the determinant and the inverse of a 3×3 matrix [10 marks]

All correct [10 marks]

Q8 Solving a 3×3 system of simultaneous linear equations [12 marks]

Would have been nice to assign values to x , y and z here [11 marks]

Total 80 /84, 95%

Leighton this is a very good effort and shows you have a very good understanding of the fundamental mathematical use of MATLAB. Very well done.

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9
