

PRACTICAL FILE
Of
ES204
MATLAB OPEN ENDED



DEPARTMENT OF INFORMATION TECHNOLOGY
AMITY SCHOOL OF ENGINEERING & TECHNOLOGY
AMITY UNIVERSITY, UTTAR PRADESH

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2020-2024

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vectors.mlx * x +

Creating Vectors

Instructions are in the task pane to the left. Complete and submit each task one at a time.

Task 1

1x = 4

2

x = 4

Task 2

3y = [7 9]

4

y = 1×2
7 9

Task 3

5z = [7;9]

6

z = 2×1
7
9

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vectors.mlx * x +

Task 3

5z = [7;9]

6

z = 2×1
7
9

Task 4

7a = [3 10 5]

8

a = 1×3
3 10 5

Task 5

9b = [8;2;-4]

10

b = 3×1
8
2
-4

Task 6

11c = [5 6 7;8 9 10]

12

c = 2×3
5 6 7
8 9 10

logicals.mbx * x

1

2

3

This code sets up the interaction.

```
load datafile
sample = data(:,1);
v1 = data(:,3);
```

4

5

Task 1

```
x = pi < 4
```

6

7

Task 2

```
y = v1 < 4
```

8

Task 3

```
z = v1(v1 < 4)
```

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logicals.mbx * x

8

9

Task 3

```
z = v1(v1 < 4)
```

10

11

Task 4

```
a = sample(v1 < 4)
```

12

13

Task 5

```
v1(v1<4) = 0
```

14

15

Further Practice

x = Logical

1

y = 7×1 logical array

0

0

1

1

0

0

0

z = 2×1

1.5177

3.6375

y = 7×1 logical array

0

0

1

1

0

0

0

z = 2×1

1.5177

3.6375

a = 2×1

19

20

v1 = 7×1

4.0753

6.6678

0

0

4.7243

9.0698

5.3002

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manyletters.mlx * x

+

Apply model to many letters

Instructions are in the task pane to the left. Complete and submit each task one at a time.

Do not edit. This code loads the data.

1

2

3

load featuredata13letters.mat

features

testdata

Task 1

4

5

6

7

gscatter(features.AspectRatio,features.Duration,features.Character)

xlim([0 10])

Task 2

8

misclass = 0.7692

A	2	1	2	2	2	7		1		1	2	
C	1	7	1	1	1		1	4		3	1	
E	5	3	3				3	1		3		2
G	3		1	2		1		9		1	1	4
I			1	1				1	2			3

COMMAND WINDOW

UTF-8 LF script Ln 14 Col 1

manyletters.mlx * x

+

Task 2

8

9

10

11

knnmodel = fitcknn(features,"Character","NumNeighbors",5);

predictions = predict(knnmodel,testdata);

Task 3

12

13

14

15

misclass = sum(predictions ~= testdata.Character)/numel(predictions);

confusionchart(testdata.Character,predictions);

Further Practice

16

17

18

misclass = 0.7692

A	2	1	2	2	2	7		1		1	2	
C	1	7	1	1	1		1	4		3	1	
E	5	3	3				3	1		3		2
G	3		1	2		1		9		1	1	4
I			1	1				1	2			3
K	3	1	1	3	2	3		3				
M	1		1			10				4	4	
O	2	5	3	1		2		3	1	1	2	
Q	2		2	1	2		1	11				1
S	1	2	4	2			1	5		4	1	
U	3		3			4	2		1	2	1	1
W	6		3	1		1	4			1	1	3
Y	3				8	2	3		1	5		



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viewimages.mlx * x

1

2

View image files

Instructions are in the task pane to the left. Complete and submit each task one at a time.

3

4

Task 1

```
img1 = imread("file01.jpg");
```


Task 2

```
imshow(img1)
```

5

6

Further Practice





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