

# DAILY ASSESSMENT FORMAT

<b>Date:</b>	<b>7 JULY 2020</b>	<b>Name:</b>	<b>HARSHITHA H</b>
<b>Course:</b>	<b>MATLAB onramp</b>	<b>USN:</b>	<b>4AL18EC020</b>
<b>Topic:</b>	<b>1.Indexing into and modifying arrays 2.Array calculations</b>	<b>Semester &amp; Section:</b>	<b>IV SEM &amp; A SECTION</b>
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## FORENOON SESSION DETAILS

### Image of session

The image displays three screenshots of the MATLAB Onramp interface, showing various tasks and code execution results.

**Top Screenshot: Task 1 - Extracting Multiple Elements**

When used as an index, the colon operator (:) specifies all the elements in that dimension. The syntax `x = A(2,:)` creates a row vector containing all of the elements from the second row of A.

**TASK** Create a variable named 'density' that contains the second column of the matrix named 'data'.

**Test Results: Correct!**

- Does the variable density exist?
- Is density assigned correctly?

**Code:**

```
load datafile
data
density=data(:,2)
```

**Workspace:**

data = 7x4				
	1	2	3	4
1	3.0000	0.5300	4.0753	NaN
2	18.0000	1.7800	6.6678	2.3328
3	19.0000	0.8600	1.5177	3.6852
4	20.0000	1.6000	3.6375	8.5389
5	21.0000	3.0000	4.7243	10.1570
6	23.0000	6.1100	9.0698	2.8739
7	38.0000	2.5400	5.3002	4.4588

**density = 7x1**

```
0.5300
1.7800
0.8600
1.6000
3.0000
6.1100
2.5400
```

**Middle Screenshot: Task 1 - Performing Array Operations on Vectors**

MATLAB is designed to work naturally with arrays. For example, you can add a scalar value to all the elements of an array.

`y = x + 2`

**TASK** Add 1 to each element of v1 and store the result in a variable named r.

**Test Results: Correct!**

- Does the variable r exist?
- Is r assigned correctly?

**Code:**

```
load datafile
density = data(:,2);
v1 = data(:,3);
v2 = data(:,4);
r=1+v1
```

**Workspace:**

**r = 7x1**

```
5.0753
7.6678
2.5177
4.6375
5.7243
10.0698
6.3002
```

**Bottom Screenshot: Task 1 - Performing Array Operations on Vectors**

Basic statistical functions in MATLAB can be applied to a vector to produce a single output. The maximum value of a vector can be determined using the max function.

`xMax = max(x)`

**TASK** Create a variable v3 containing the maximum of the v1 vector.

**Code:**

```
v1 = data(:,3);
v2 = data(:,4);
r=1+v1
v3=v1+v2
v4=v3/2
```

**Workspace:**

**r = 7x1**

```
5.0753
7.6678
2.5177
4.6375
5.7243
10.0698
6.3002
```

**v3 = 7x1**

```
4.5753
8.8006
5.2029
12.1764
14.8813
11.9437
9.7510
```

**v4 = 7x1**

```
1
2.2877
4.4003
2.6014
6.0882
7.4406
```

Report –

## **MATLAB ONRAMP**

### **1.Indexing into and modifying arrays**

- Extracting multiple elements
- Changing values into arrays

### **2.Array calculations**

- Performing array operations on vectors

<b>Date: 7 JULY 2020</b>	<b>Name: HARSHITHA H</b>
<b>Course: Introduction to IOT</b>	<b>USN: 4AL18EC020</b>
<b>Topic: 1. Course introduction</b> <b>2. Everything is connected</b> <b>3. Everything is programmable</b>	<b>Semester &amp; Section: IV SEM &amp; A SECTION</b>

## AFTERNOON SESSION DETAILS

### Image of session

The image displays three screenshots of Cisco Academy's 'Introduction to the Internet of Things' (IoT) course modules, accessed via a web browser. The interface includes a top navigation bar with 'Chapter 1: Everything is Connected', 'Chapter 2: Everything Becomes Programmable', and 'Chapter 3: Everything is Programmable'. The Cisco Academy logo is visible in the top right corner of each screenshot.

**Screenshot 1 (Top):** Shows the '1.1.1.6 Topic Assessment' module. It contains a drag-and-drop activity where users match terms to definitions. The terms and their corresponding definitions are:
 

- sensor**: A device that detects or measures an event.
- on-line**: Many people prefer to purchase services and products on-line.
- self-driving cars**: Artificial intelligence assists the creation of self-driving cars.
- Digital transformation**: Is the application of digital technology that encourages business innovation.
- programmed**: To be useful to businesses and governments, generated data needs to be programmed.
- analyzed**: If analyzed appropriately, smart devices can learn and modify their own code based on new parameters.
- smart devices**: There are more smart devices than people in the world today.

**Screenshot 2 (Middle):** Shows the '2.1.1.7 Activity - Identify Programming Terms' module. It features a flowchart activity where users identify programming concepts. The flowchart includes:
 

- If/Then**: If "password=12345", then display "password correct".
- For/Do**: For "count=10", do display "not 10 yet".
- While/Do**: While temperature sensor > 80, do display "temperature too high".

**Screenshot 3 (Bottom):** Shows the '2.1.1.6 Activity - Programming Language Concepts' module. It contains a drag-and-drop activity where users match terms to definitions. The terms and their corresponding definitions are:
 

- Compiled**: A programming language turns the computer program into Machine language before execution.
- System**: Software that controls the computer hardware is known as System software.
- Interpreted**: Python is an example of an Interpreted programming language.
- Flowchart**: A graphical representation of a process is known as a Flowchart.
- Algorithm**: A set of self-contained step-by-step instructions is known as an Algorithm.
- WHILE**: loop executes a procedure as long as the tested condition is true and
- FOR**: loop executes a procedure a fixed number of times.
- Global**: variable is visible in all parts of a computer program but a Local variable is only available in the module it was declared.

## **INTRODUCTION TO INTERNET OF THINGS(IOT)**

### **➤ Course introduction:**

### **➤ Everything is connected:**

- Digital transformation
- Digitization transforms business
- Globally connected through networks
- Growth of IOT devices
- Connecting the IOT devices to the network

### **➤ Everything becomes programmable:**

- Basic programming concepts
- Basic programming using blockly
- Programming with python
- Prototyping
- Prototyping resources