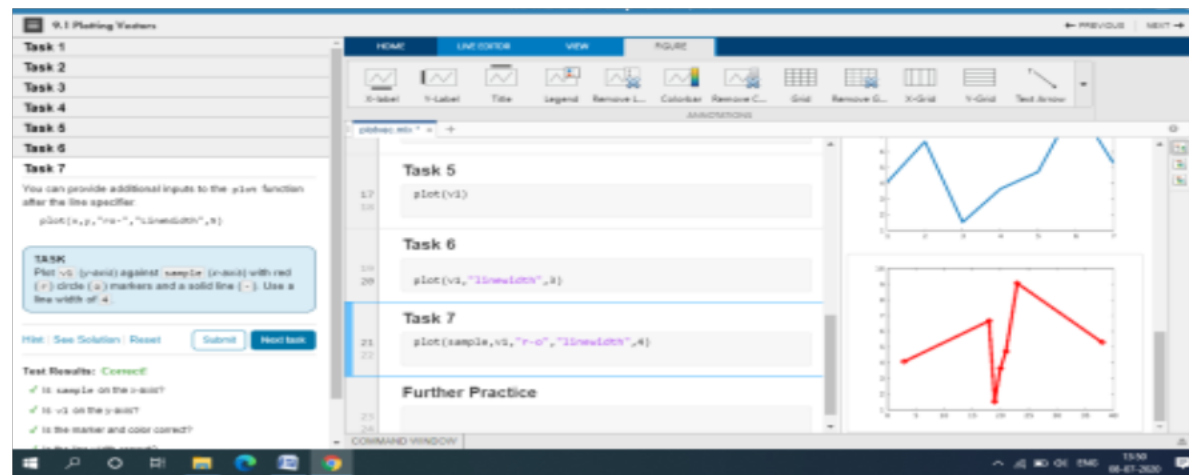
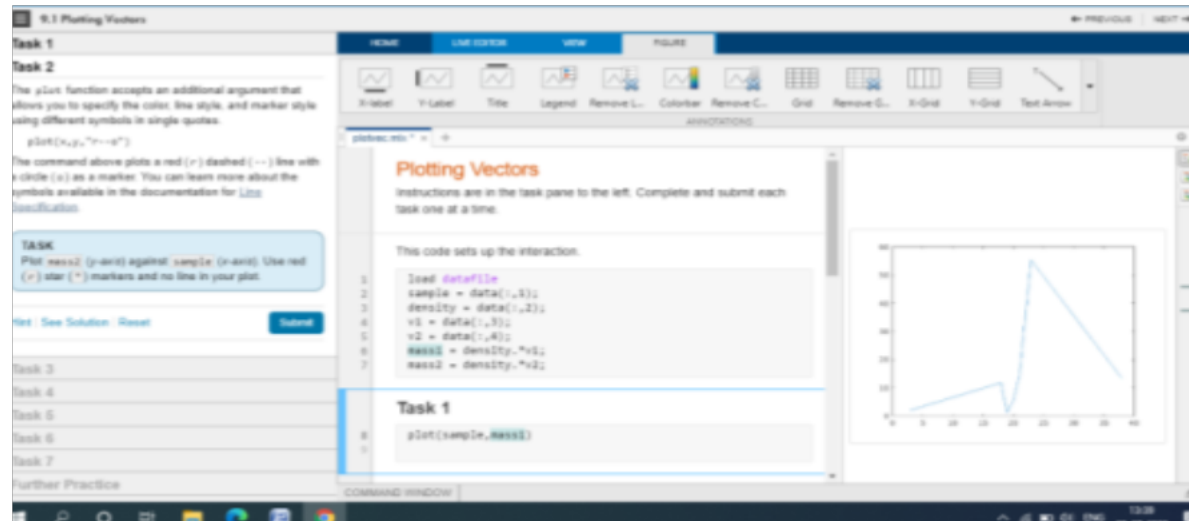


DAILY ASSESSMENT FORMAT

| | | | |
|-------------------------------|--|------------------------------------|-----------------------------------|
| Date: | 08-07-2020 | Name: | Rajeshwari Gadagi |
| Course: | Matlab from mathworld | USN: | 4AL17EC076 |
| Topic: | Array calculations,calling function , plotting data | Semester & Section: | 6th sem 'B' sec |
| Github Repository: | Rajeshwari-gadagi | | |

FORENOON SESSION DETAILS

Image of session



10.3 Project - Audio Frequency

PREVIOUSNEXT

Task 1

Task 2

t now has the correct number of points, but it needs to represent the times when the audio signal was sampled. You can use the sampling frequency f_s to convert the vector to time (in seconds).

TASK

Divide t by f_s . Assign the output to the same variable t . Then plot y against t .

Hint / See Solution / Reset

Submit / Next task

Test Results: Correct!

✓ is t updated correctly?

✓ is t on the x-axis?

✓ is y on the y-axis?

Task 3

Task 4

Task 5

Further Practice

HOME

LIVE EDITOR

VIEW

FIGURE

X-label

Y-label

Title

Legend

Remove L...

Colorbar

Remove C...

Grid

Remove G...

X-Grid

Y-Grid

Text Arrow

Annotations

audiofrequency.mbo

+

Audio Frequency

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

Task 1

```
1 load('Colored')
2 n=numel(y)
3 t=0:n-1;
4
```

Task 2

```
5 t=t/fs
6
7 plot(t,y)
```

Task 3

Figure

n = 22280

t = 0:0.0001:0.0004...

COMMAND WINDOW

14:14 09-07-2020

10.3 Logical Indexing

PREVIOUSNEXT

Task 1

Task 2

Task 3

Task 4

Task 5

You can use logical indexing to reassign values in an array. For example, if you wish to replace all values in the array x that are equal to zero with the value 1, use the following syntax:

```
x(x==0) = 1;
```

TASK

Modify x so that any value less than 4 is replaced with the value 0.

Hint / See Solution / Reset

Submit

Further Practice

HOME

LIVE EDITOR

VIEW

FIGURE

File

Edit

Code

Control

Refactor

CODE

Task

Run Section

Run and Advance

Run to End

SECTION

Run

Step

Stop

Help

logicals.mbo

+

Task 1

```
1 %TestVector
2
```

Task 2

```
3
```

Task 3

```
4 x=1:(5+4)
```

Task 4

```
5 x=x&4<4
```

Task 5

Figure

Test = The logical array

0

0

0

0

0

x = 1:5

1

0

0

0

y = 2:5

1

0

0

0

z = 2:5

0

0

0

0

COMMAND WINDOW

14:01 09-07-2020

Array Operations

Array operations execute element by element operations on corresponding elements of vectors, matrices, and multidimensional arrays. If the operands have the same size, then each element in the first operand gets matched up with the element in the same location in the second operand. If the operands have compatible sizes, then each input is implicitly expanded as needed to match the size of the other. For more information, see [Compatible Array Sizes for Basic Operations](#).

As a simple example, you can add two vectors with the same size.

```
A = [1 1 1]
```

```
A =
```

```
1 1 1
```

```
B = [1 2 3]
```

```
B =
```

```
1 2 3
```

```
A+B
```

```
ans =
```

```
2 3 4
```

If one operand is a scalar and the other is not, then MATLAB implicitly expands the scalar to be the same size as the other operand. For example, you can compute the element-wise product of a scalar and a matrix.

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

```
A =
```

```
1 2 3
```

```
1 2 3
```

```
3.*A
```

```
ans =
```

```
3 6 9
```

```
3 6 9
```



Course Completion Certificate

Rajeshwari Gadagi

has successfully completed **100%** of the self-paced training course

MATLAB Onramp


DIRECTOR, TRAINING SERVICES

08 July 2020

DAILY ASSESSMENT FORMAT

| | | | |
|-------------------------------|---|------------------------------------|-----------------------------------|
| Date: | 08-07-2020 | Name: | Rajeshwari Gadagi |
| Course: | Cisco certification course | USN: | 4AL17EC076 |
| Topic: | Introduction to internet of things | Semester & Section: | 6th sem 'B' sec |
| Github Repository: | Rajeshwari-gadagi | | |

| |
|----------------------------------|
| AFTERNOON SESSION DETAILS |
|----------------------------------|

Image of session

This screenshot shows the Cisco Networking Academy interface for the module "1.1.1.1 The Evolution of Digital Transformation". The left sidebar contains a list of statistics:

- 7.4 billion - people on the planet
- 30 billion - devices connected to the Internet by 2020
- 6.58 - average number of connected devices per consumer in 2020
- 44% - children under the age of 1 use smart devices
- 1.4 million - number of pacemakers in use by 2023
- 15 million - Fitbit exercise monitors sold in 2017
- 20 billion - Euros to be spent on artificial intelligence by the EU by 2020

The main content area is titled "The Evolution of Digital Transformation" and includes a paragraph about the growing number of smart devices and a question: "How is it possible for so many devices to be connected?". The bottom navigation bar shows "1" and "2" with "Figures" selected.

This screenshot shows the Cisco Networking Academy interface for the module "1.1.1.6 Topic Assessment". The left sidebar contains the instructions: "Drag the words into the correct places." and buttons for "Check" and "Reset". The main content area displays a list of sentences with missing words and a word bank:

A **sensor** is a device that detects or measures an event.

Many people prefer to purchase services and products **on-line**.

Artificial intelligence assists the creation of **self-driving cars**.

Digital transformation is the application of digital technology that encourages business innovation.

To be useful to businesses and governments, generated data needs to be **programmed**.

If **analyzed** appropriately, smart devices can learn and modify their own code based on new parameters.

There are more **smart devices** than people in the world today.

The word bank at the bottom includes: sensor, on-line, self-driving cars, Digital transformation, programmed, analyzed, smart devices.

Introduction to Internet of Things (IoT)

The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

The definition of the Internet of things has evolved due to the convergence of multiple technologies, real-time analytics, machine learning, commodity sensors, and embedded systems. Traditional fields of embedded systems, wireless sensor networks, control systems, automation (including home and building automation), and others all contribute to enabling the Internet of things. In the consumer market, IoT technology is most synonymous with products pertaining to the concept of the "smart home", covering devices and appliances (such as lighting fixtures, thermostats, home security systems and cameras, and other home appliances) that support one or more common ecosystems, and can be controlled via devices associated with that ecosystem, such as smartphones and smart speakers.

There are a number of serious concerns about dangers in the growth of IoT, especially in the areas of privacy and security, and consequently industry and governmental moves to address these concerns have begun.

The main concept of a network of smart devices was discussed as early as 1982, with a modified Coca-Cola vending machine at Carnegie Mellon University becoming the first Internet-connected appliance, able to report its inventory and whether newly loaded drinks were cold or not. Mark Weiser's 1991 paper on ubiquitous computing, "The Computer of the 21st Century", as well as academic venues such as UbiComp and PerCom produced the contemporary vision of the IoT. In 1994, Reza Raji described the concept in IEEE Spectrum as "[moving] small packets of data to a large set of nodes, so as to integrate and automate everything from home appliances to entire factories". Between 1993 and 1997, several companies proposed solutions like Microsoft's at Work or Novell's NEST. The field gained momentum when Bill Joy envisioned device-to-device communication as a part of his "Six Webs" framework, presented at the World Economic Forum at Davos in 1999.

The term "Internet of things" was likely coined by Kevin Ashton of Procter & Gamble, later MIT's Auto-ID Center, in 1999, though he prefers the phrase "Internet for things". At that point, he viewed radio-frequency identification (RFID) as essential to the Internet of things, which would allow computers to manage all individual things.

Defining the Internet of things as "simply the point in time when more 'things or objects' were connected to the Internet than people", Cisco Systems estimated that the IoT was "born" between 2008 and 2009, with the things/people ratio growing from 0.08 in 2003 to 1.84 in 2010.

The key driving force behind the Internet of things is the MOSFET (metal-oxide-semiconductor field-effect transistor, or MOS transistor), which was originally invented by Mohamed M. Atalla and Dawon Kahng at Bell Labs in 1959. The MOSFET is the basic building block of most modern electronics, including computers, smartphones, tablets and Internet services. MOSFET scaling miniaturization at a pace predicted by Dennard scaling and Moore's law has been the driving force behind technological advances in the electronics industry since the late 20th century. MOSFET scaling has been extended into the early 21st century with advances such as reducing power consumption, silicon-on-insulator (SOI) semiconductor device fabrication, and multi-core processor technology, leading up to the Internet of things, which is being driven

by MOSFETs scaling down to nanoelectronic levels with reducing energy consumption.

Consumer applications[\[edit\]](#)

A growing portion of IoT devices are created for consumer use, including connected vehicles, home automation, wearable technology, connected health, and appliances with remote monitoring capabilities.

Smart home[\[edit\]](#)

IoT devices are a part of the larger concept of home automation, which can include lighting, heating and air conditioning, media and security systems. Long-term benefits could include energy savings by automatically ensuring lights and electronics are turned off.

A smart home or automated home could be based on a platform or hubs that control smart devices and appliances. For instance, using Apple's HomeKit, manufacturers can have their home products and accessories controlled by an application in iOS devices such as the iPhone and the Apple Watch. This could be a dedicated app or iOS native applications such as Siri. This can be demonstrated in the case of Lenovo's Smart Home Essentials, which is a line of smart home devices that are controlled through Apple's Home app or Siri without the need for a Wi-Fi bridge. There are also dedicated smart home hubs that are offered as standalone platforms to connect different smart home products and these include the Amazon Echo, Google Home, Apple's HomePod, and Samsung's SmartThings Hub. In addition to the commercial systems, there are many non-proprietary, open source ecosystems; including Home Assistant, OpenHAB and Domoticz.

