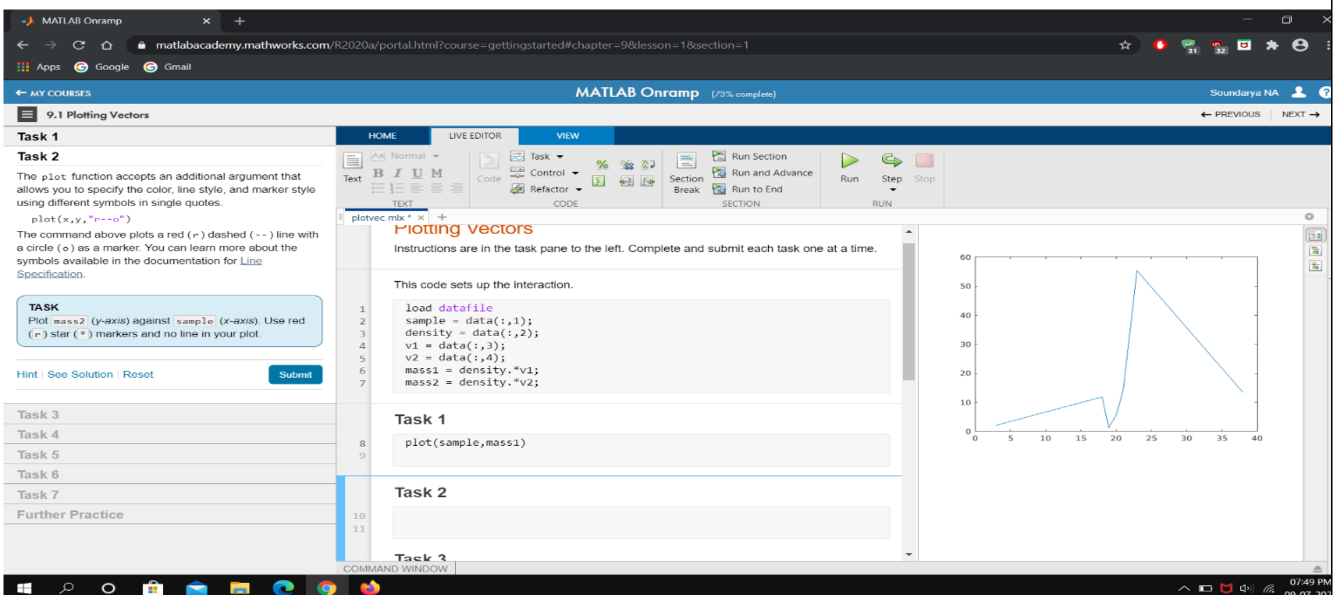
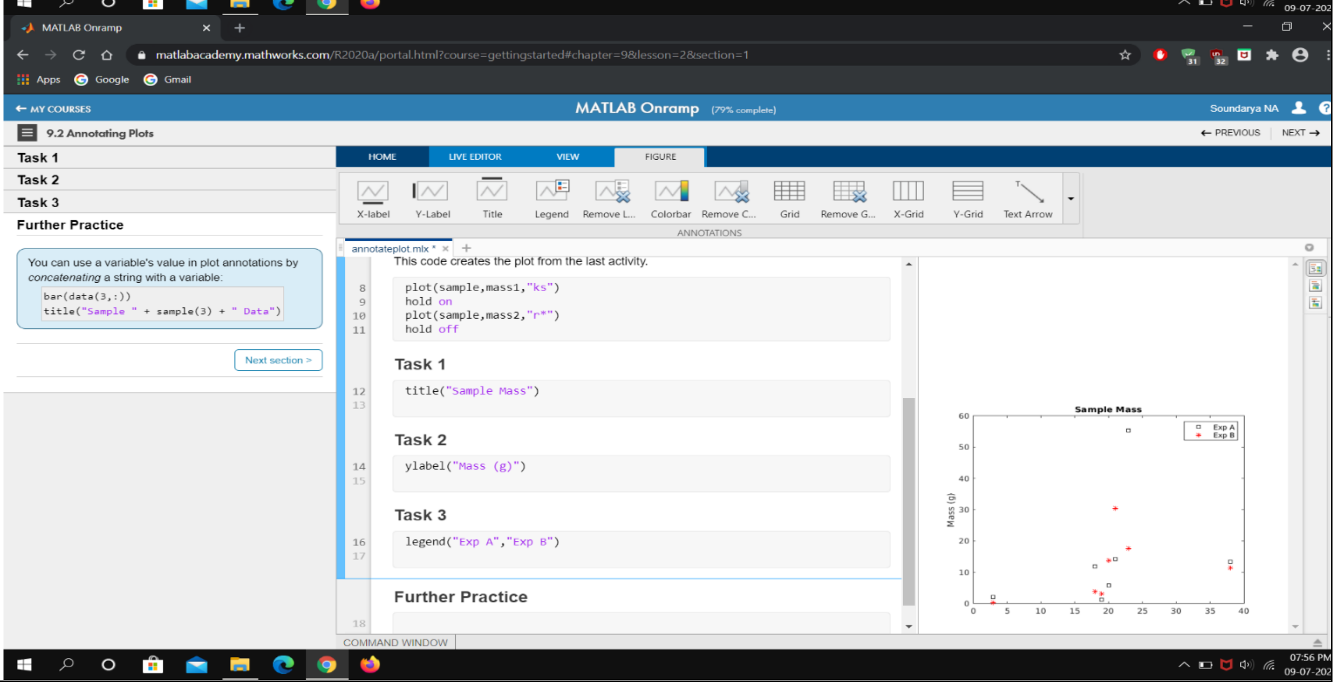
DAILY ASSESSMENT FORMAT

Date:	10th July2020	**Name:**	Soundarya NA
Course:	Matlab	**USN:**	4AL16EC077
Topic:	Matlab	**Semester & Section:**	8th - B
Github Repository:	Soundaryana-courses		

FORENOON SESSION DETAILS
Image of session





Report:

To create a script by using edit command:

edit mysphere

[x,y,z] = sphere;

r = 2;

surf(x*r,y*r,z*r)

axis equal

A = 4*pi*r^2;

V = (4/3)*pi*r^3;

% Create and plot a sphere with radius r.

[x,y,z] = sphere;   % Create a unit sphere.

r = 2;

surf(x*r,y*r,z*r)   % Adjust each dimension and plot.

axis equal   % Use the same scale for each axis.

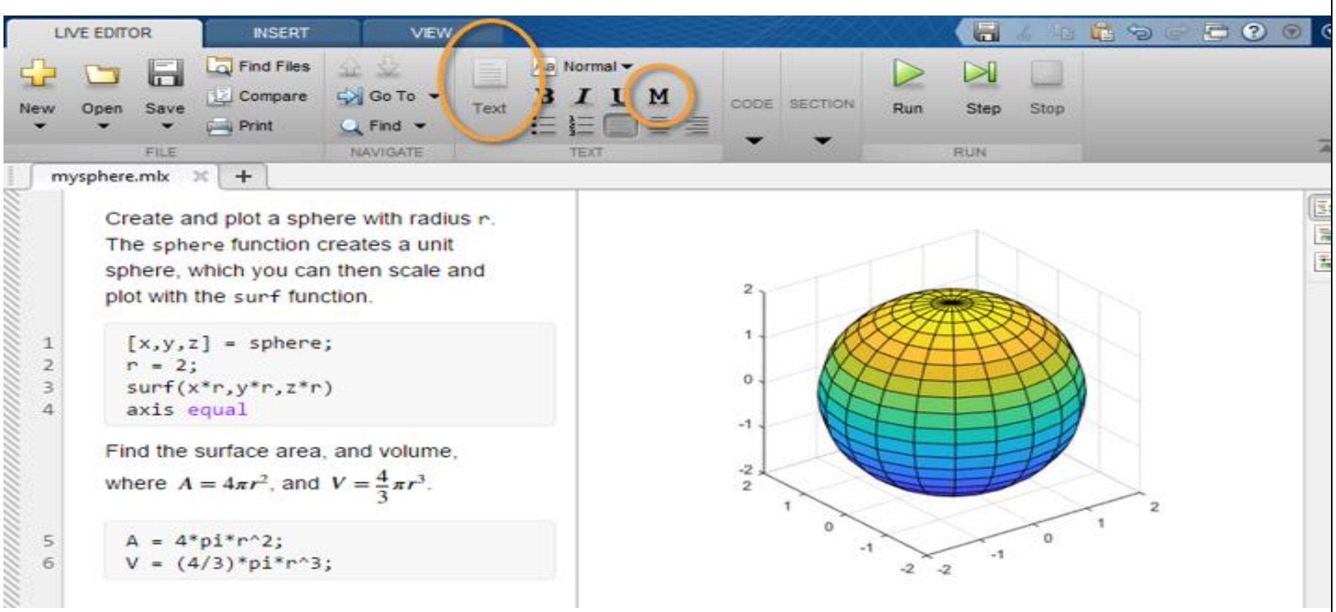
% Find the surface area and volume.

A = 4*pi*r^2;

V = (4/3)*pi*r^3;

mysphere

edit newfile.mlx



Loops and conditional statements:

Eg1:

```
N = 100;
f(1) = 1;
f(2) = 1;

for n = 3:N
   f(n) = f(n-1) + f(n-2);
end
f(1:10)

ans = 1    1    2    3    5    8    13    21    34    55
```

Eg2:

```
num = randi(100)
if num < 34
   sz = 'low'
elseif num < 67
   sz = 'medium'
else
   sz = 'high'
end
```

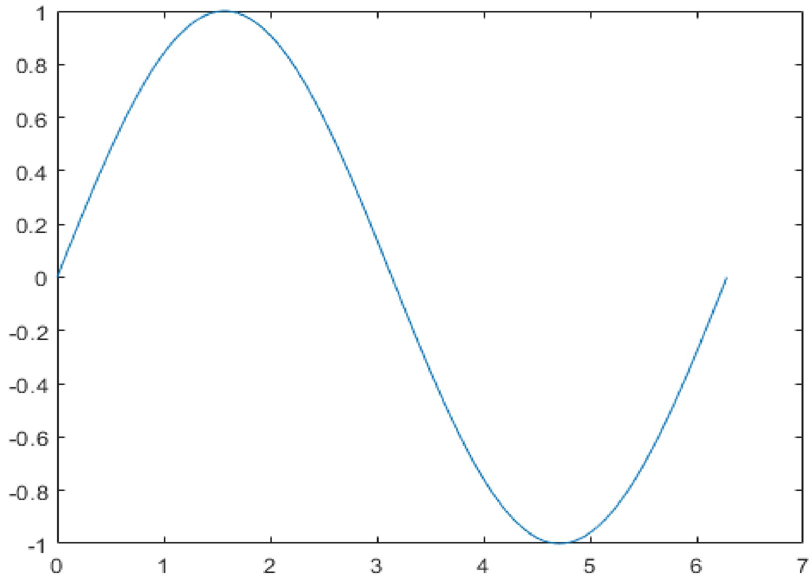
Output:

The statement sz = 'high' only executes when num is greater than or equal to 67.

2-D and 3-D plots:

Line Plots:

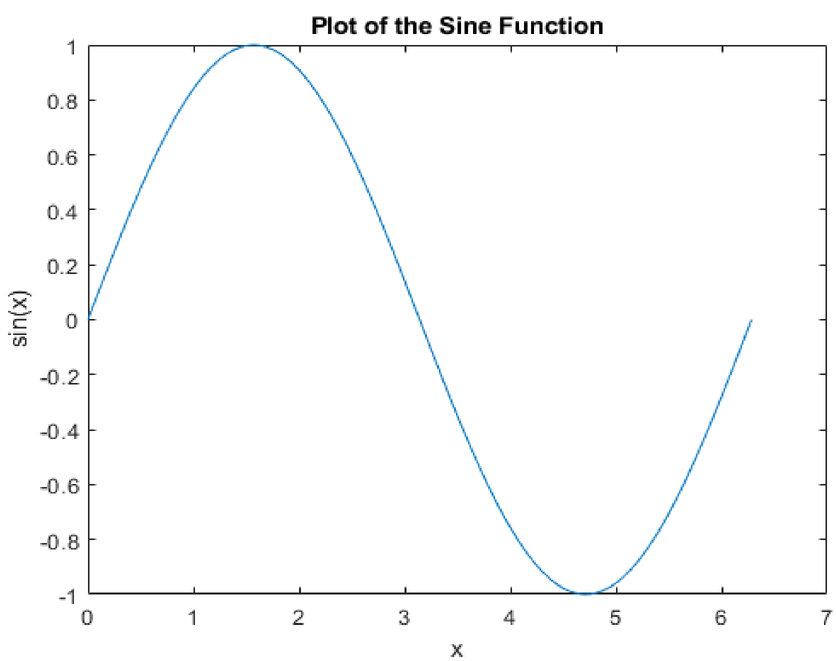
```
x = 0:pi/100:2*pi;
y = sin(x);
plot(x,y)
```



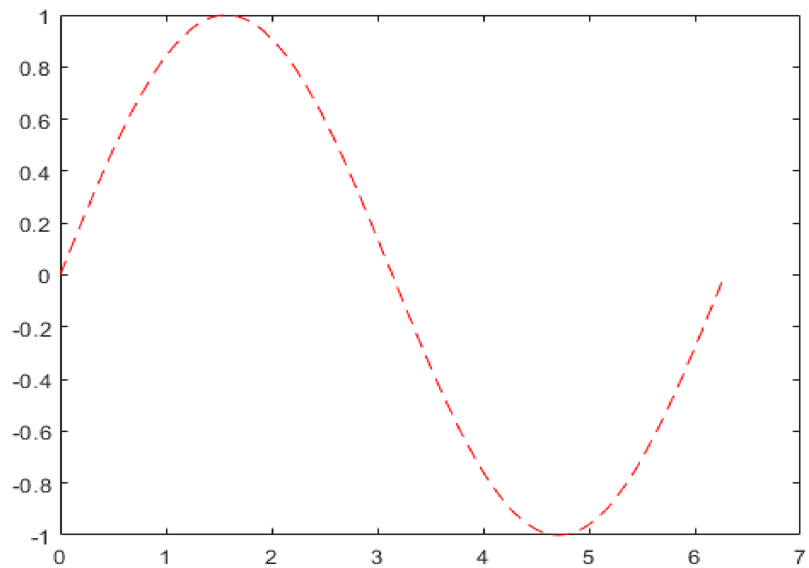
xlabel('x')

ylabel('sin(x)')

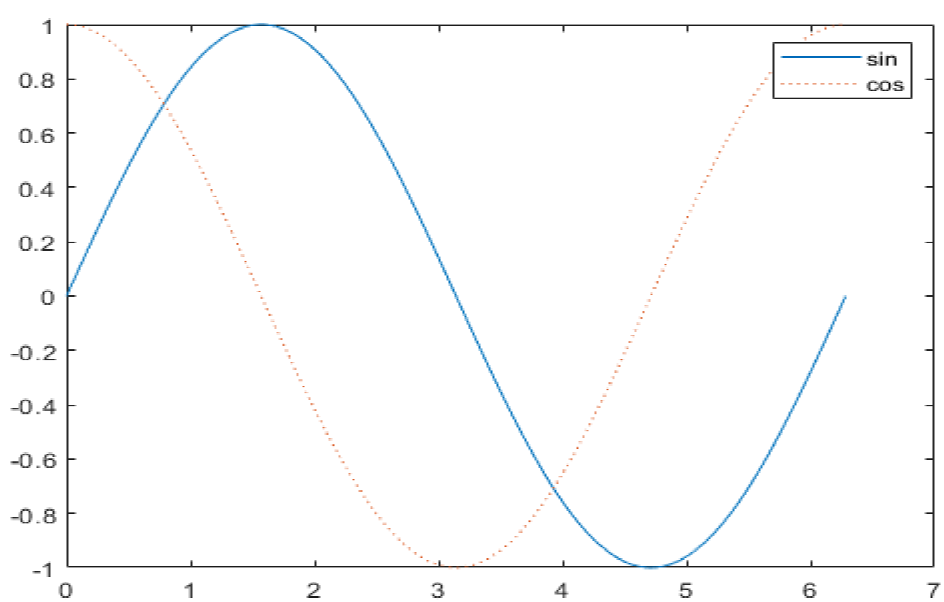
title('Plot of the Sine Function')



plot(x,y,'r--')

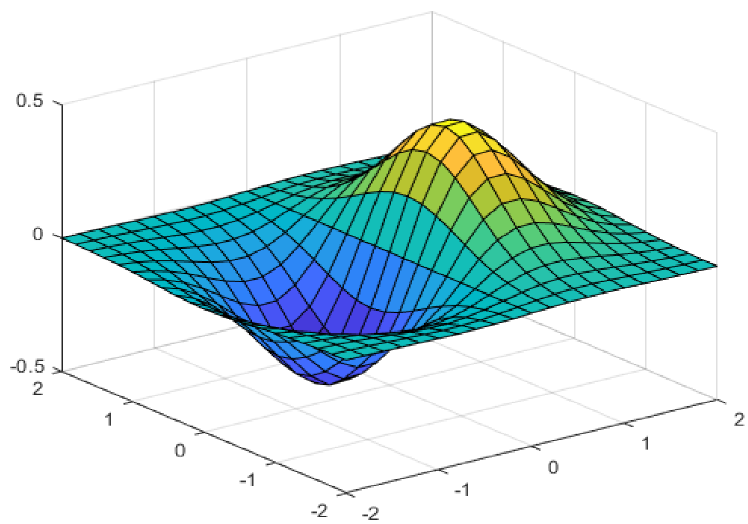


```
x = 0:pi/100:2*pi;
y = sin(x);
plot(x,y)
hold on
y2 = cos(x);
plot(x,y2,':')
legend('sin','cos')
hold off
```

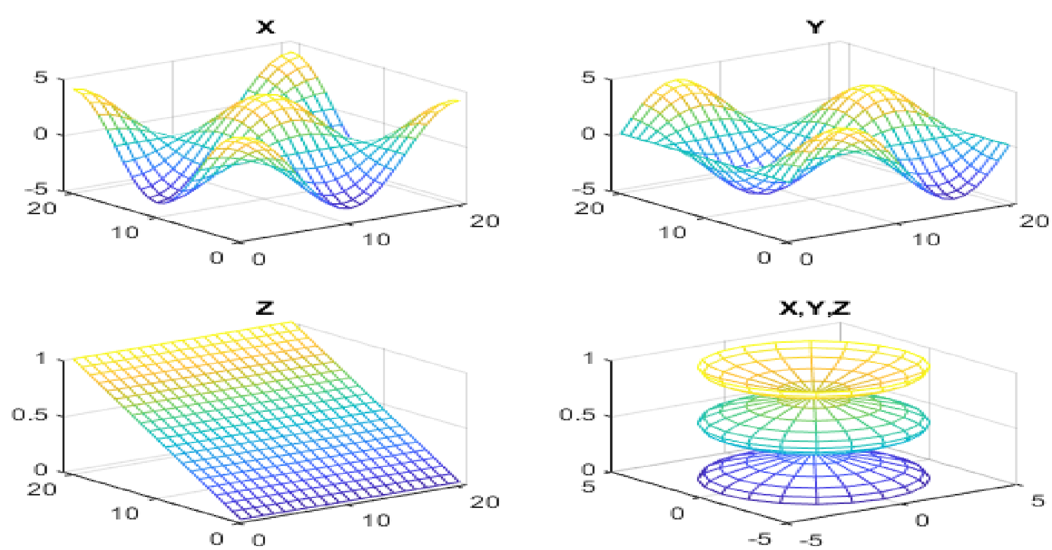


3-D plots:

```
[X,Y] = meshgrid(-2:.2:2);
Z = X .* exp(-X.^2 - Y.^2);
surf(X,Y,Z)
```



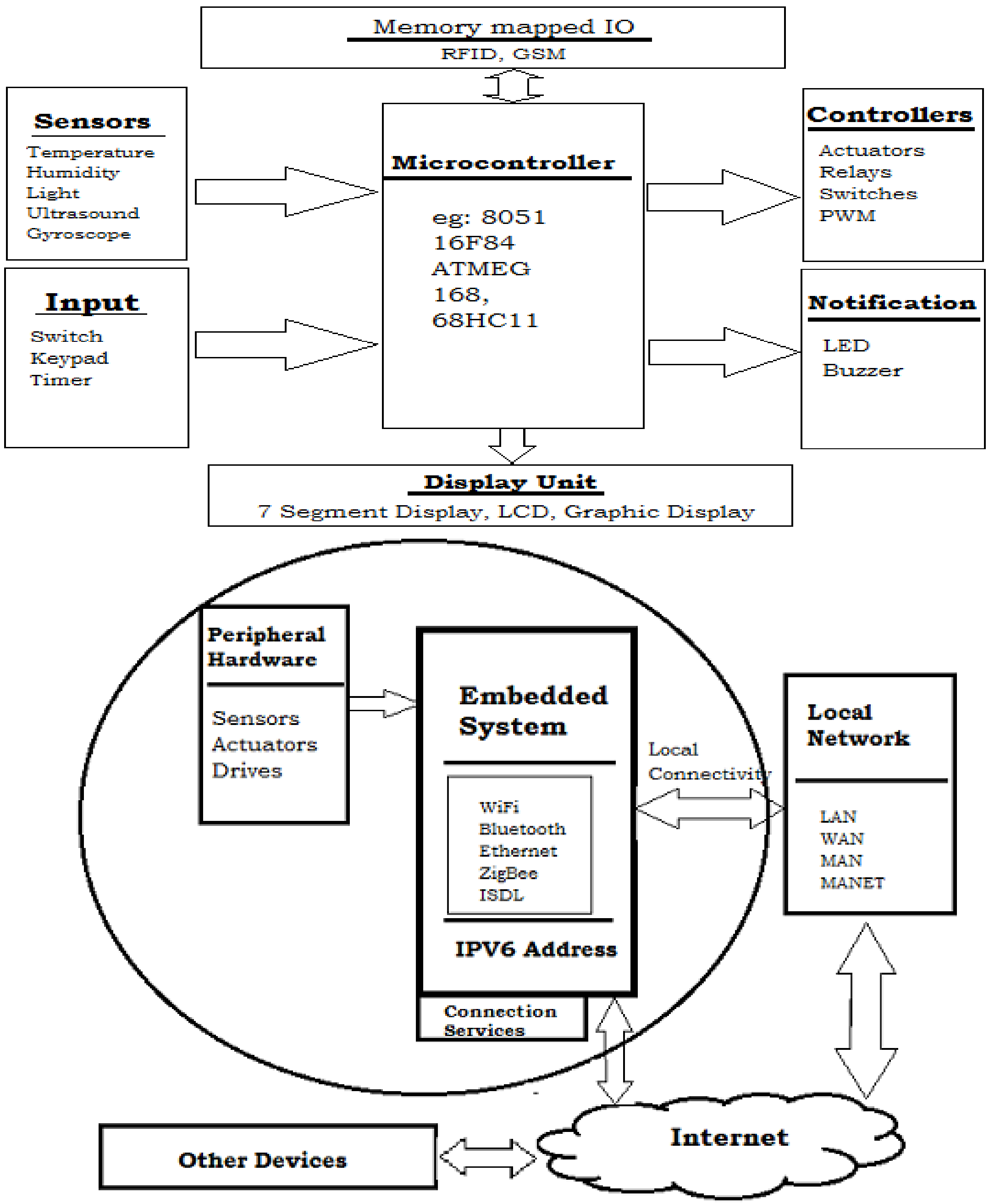

```
t = 0:pi/10:2*pi;
[X,Y,Z] = cylinder(4*cos(t));
subplot(2,2,1); mesh(X); title('X');
subplot(2,2,2); mesh(Y); title('Y');
subplot(2,2,3); mesh(Z); title('Z');
subplot(2,2,4); mesh(X,Y,Z); title('X,Y,Z');
```



Date:	10th July 2020	**Name:**	Soundarya NA
Course:	CISCO	**USN:**	4AL16EC077
Topic:	Introduction to IOT	**Semester & Section:**	8th - B

AFTERNOON SESSION DETAILS

Image of session



Internet of Things (IoT)

Report:

Embedded systems have become an important part of every modern electronic component such as – microwave oven, washing machine, remote control, RFID tags, routers, modems, PDAs, mobile phones etc. Embedded system is a part of large device that perform specific task of the device. For instance – they are used as home automation embedded systems to control lights, sensors, sense climate change, AV systems etc.

Today, IoT is one of the hottest topics of the industry and has taken its place in conventional business Jargon. However, it brought host of challenges for developers — as they need to develop devices that allow seamless connectivity. To help embedded developers meet the challenges posed by IoT, an RTOS must be designed that delivers scalability, connectivity, modularity, safety and a cutting-edge feature set to comply with the demands of highly connected remotely managed IoT solutions.

What does IoT mean for an embedded developer?

As IoT solutions present all industries with business opportunities, it gives tremendous opportunities for embedded system developers too. For an embedded developer, it is all about connecting multiple devices to the internet. However, there is a lot more than just being connected to the internet. IoT for embedded systems is more about collecting and analyzing large amount of data from different perspectives and summarizing it into useful information to improve the way services and devices are used today.

Major players in embedded hardware and software development are aiming to bring these transformations into their products to take advantage of growing IT market. Smart embedded systems need architecture and design elements to suit real time operations. With billions of devices expected to join in the coming years, analysts expect that IoT will have significant impact on device design. Working with these devices is a different domain for most of the application developers. The key difference between a general OS and RTOS lies within the high degree of reliability and consistency on timing between the task acceptance and completion.

Future of IoT embedded systems

With growth and advancements in the field of electronics and wireless communications, devices around us are able to communicate in a better way than one can imagine. The future of embedded systems and IoT lies in the advancement of technologies that enable faster communication with high interwoven connections between different devices. IoT is gradually sneaking into our lives and is expected to become more persuasive in future. It is going to become a lot more than just a concept, and the interaction between embedded devices will revolutionize the way data and devices are interconnected.

No doubt, the future of IoT embedded devices is going to be bright with the easy access of internet in every corner of the world. Internet of things will play a significant role in the manufacturing of devices, as a result of which people will have complete access to products at home — even if they are away from home. The Internet of Things (IoT) holds a promising future, especially in North American embedded industry where companies come up with innovative products.