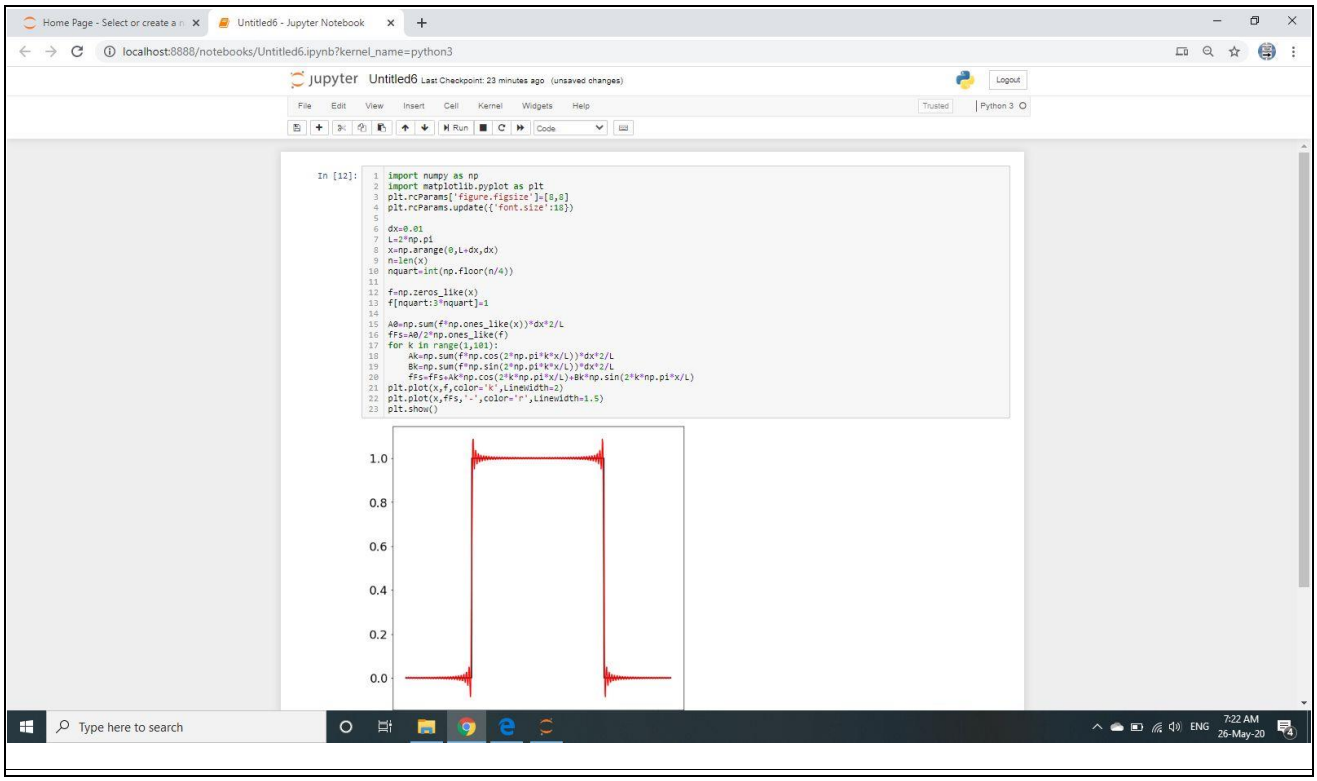
Date:	**26 MAY 2020**	**Name:**	**Apeksha S Shetty**
Course:	**Digital Signal Processing**	**USN:**	**4AL16EC006**
Topic:	**Fourier Series and Gibbs Phenomenon using Python, Laplace transform using Matlab,Z Transform Using Matlab.**	**Semester & Section:**	**8th sem & A sec**
Github Repository:	**Apeksha-97**		

FORENOON SESSION DETAILS

Image of session



Fourier Series and Fourier Transform Fourier Series

Fourier Transform

$$f(x)=\frac{1}{2}a_0+\sum_{-\infty}^{\infty}(a_k\cos 2kt+b_k\sin 2kt)$$

$$X(F)=\int_{-\infty}^{\infty}x(t)e^{-j2Ft}dt$$

Fourier Series and Gibbs Phenomana Using Python

```
import numpy as np
import matplotlib.pyplot as plt
plt.rcParams['figure.figsize']=[8,8]
plt.rcParams.update({'font.size':18})

dx=0.01
L=2*np.pi
x=np.arange(0,L+dx,dx)
n=len(x)
nquart=int(np.floor(n/4))
f=np.zeros_like(x)
f[nquart:3*nquart]=1
A0=np.sum(f*np.ones_like(x))*dx*2/L
fFs=A0/2*np.ones_like(f)
for k in range(1,101):

Ak=np.sum(f*np.cos(2*np.pi*k*x/L))*dx*2/L
Bk=np.sum(f*np.sin(2*np.pi*k*x/L))*dx*2/L
fFs=fFs+Ak*np.cos(2*k*np.pi*x/L)+Bk*np.sin(2*k*np.pi*x/L)

plt.plot(x,f,color='k',LineWidth=2)
plt.plot(x,fFs,'-',color='r',Linewidth=1.5)
plt.show()
```

Laplace Transform [Matlab]

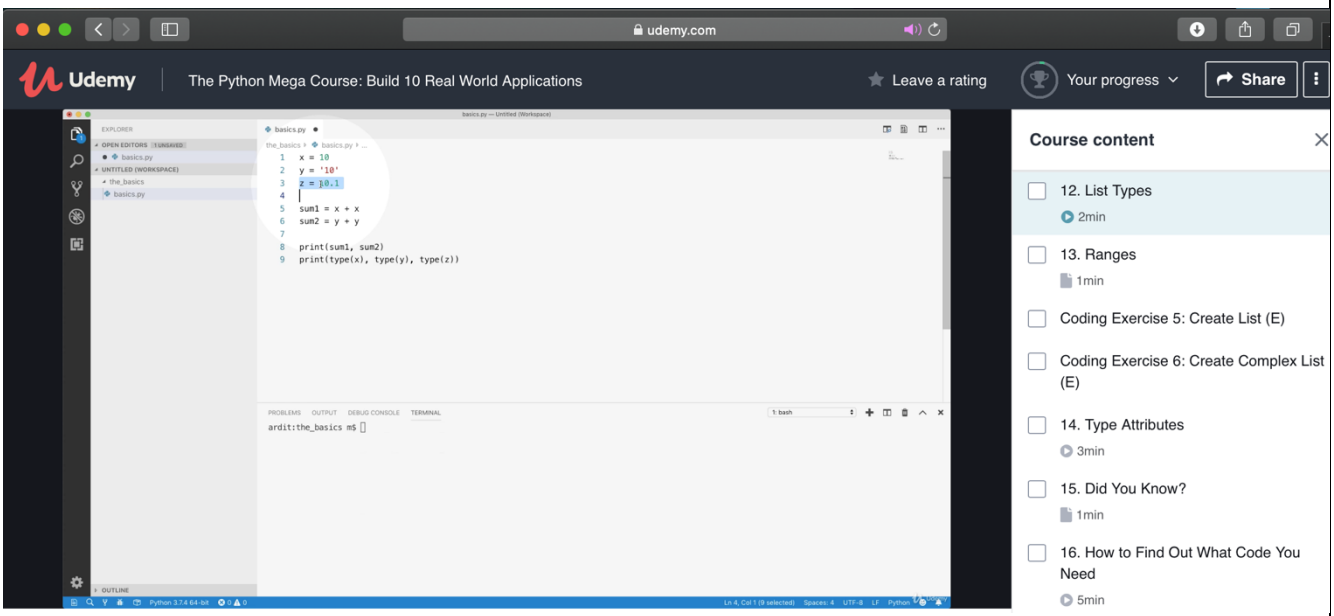
```
clear all;
close all;
syms L f t;
f=(exp(-3*t)*sin(2*t))/t
```

```
L=laplace(f)

Inverse Laplace Transform clear all;
close all;

syms F,s,x; F=(s+29)/(s^3+4*s^2+9*s+36) ilaplace(F,x)

Z Transform Using Matlab clear all;
close all;
syms n,w;

a=sin(w*n)
b=ztrans(a)
disp(b)
(z*sin(w))/(z^2 -2*cos(w)*z+1) pretty(b)
```

Date:	**26 MAY 2020**	**Name:**	**Apeksha S Shetty**
Course:	**Python**	**USN:**	**4AL16EC006**
Topic:	**Personal Website with Python and Flask**	**Semester & Section:**	**8th sem & A sec**

AFTERNOON SESSION DETAILS

Image of session



script1.py

```
from flask import Flask, render_template app=Flask(__name__)

@app.route('/') def home():

return render_template("home.html")

@app.route('/about/') def about():

return render_template("about.html")

if __name__=="__main__": app.run(debug=True)
```

home.html

```
{% extends "layout.html" %} {% block content %}
<div class="home">

<h1>My homepage</h1>

<p>This is a test website</p> </div>

{% endblock %}
```

about.html

```
{% extends "layout.html" %} {% block content %}
<div class="about">

<h1>My about page</h1>
<p>This is a test website again</p> <p>This was added later</p>

</div>
{% endblock %}
```

layout.html

```
<!DOCTYPE html> <html>

<head>

<title>Flask App</title>

<link rel="stylesheet" href="{{url_for('static',filename='css/main.css')}}"
>

</head> <body>
```

```
<header>
<div class="container">

<h1 class="logo">Persis' web app</h1> <strong><nav>


<ul class="menu">
<li><a href="{{ url_for('home') }}">Home</a></li> <li><a href="{{
url_for('about') }}">About</a></li>

</ul> </nav></strong>

</div>
</header>
<div class="container">

        {%block content%}
        {%endblock%}

</div> </body>

</html>
```