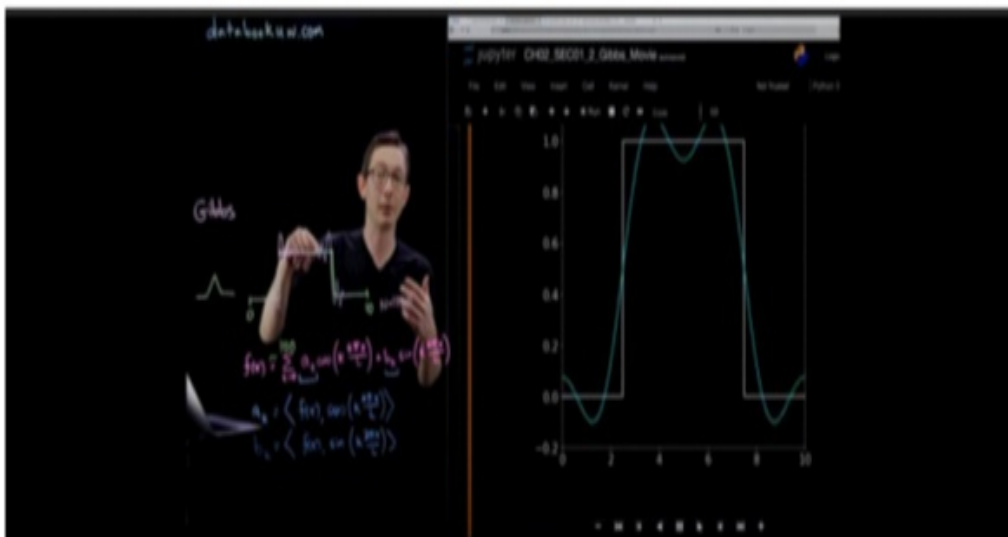


## DAILY ASSESSMENT FORMAT

Date:	26-05-2020	Name:	M V Ramya
Course:	DSP	USN:	4AL17EC045
Topic:	Fourier transform	Semester & Section:	6th sem, A sec
Github Repository:	M V Ramya-045		

### FORENOON SESSION DETAILS



## Day-2

### # Fourier Series and Gibbs Phenomena:-

```
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)
nqvart = int(np.floor(n/4))
```

```
f = np.zeros_like(x)
f[nqvart : 3 * nqvart] = 1
```

```
FD = np.sum(f * np.ones_like(x)) * dx * 2/L
fFS = Ao/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
```

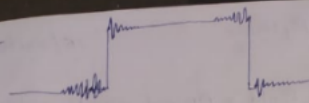
```
    fFS = fFS + Ak * np.cos(2 * np.pi * k * x / L) + Bk * np.sin(2 * np.pi * k * x / L)
```

```
plt.plot(x, f, color='k', linewidth=2)
```

```
plt.plot(x, fFS, '-', color='r', linewidth=1.5)
```

```
plt.show()
```

O/P:-



#

### # Fourier transform derivatives

$$f'(\omega) = F(f(x)) = \int_{-\infty}^{\infty} f(x) e^{-j\omega x} dx$$

$$f(x) = F^{-1}(f'(\omega)) = \frac{1}{2\pi} \int_{-\infty}^{\infty} f'(\omega) e^{j\omega x} d\omega$$

$$F\left(\frac{d}{dx} f(x)\right) = \int_{-\infty}^{\infty} \frac{d}{dx} f(x) e^{-j\omega x} dx = j\omega F(f(x))$$

$$F(f \cdot g) = F(f) F(g) = f' \cdot g'$$

$$F^{-1}(f' \cdot g')(x) = \frac{1}{2\pi} \int_{-\infty}^{\infty} f'(\omega) g'(\omega) e^{j\omega x} d\omega = f \cdot g$$

$$F(\omega) = \int_{-\infty}^{\infty} f(t) e^{-j\omega t} dt$$

$$F(\omega) = \int_{-\infty}^{\infty} f(t) \cos(\omega t) dt - j \int_{-\infty}^{\infty} f(t) \sin(\omega t) dt$$

### # Z-transform in MATLAB

```
syms n w0;
```

```
% signal
```

```
a = n+1
```

```
disp('the input equation is');
```

```
disp(a);
```

```
% taking Z-transform
```

$$O/P:- a = 2^n$$

$$b = ztrans(a)$$

$$b = \frac{z}{z-2}$$

Course: python

USN:4AL17EC045

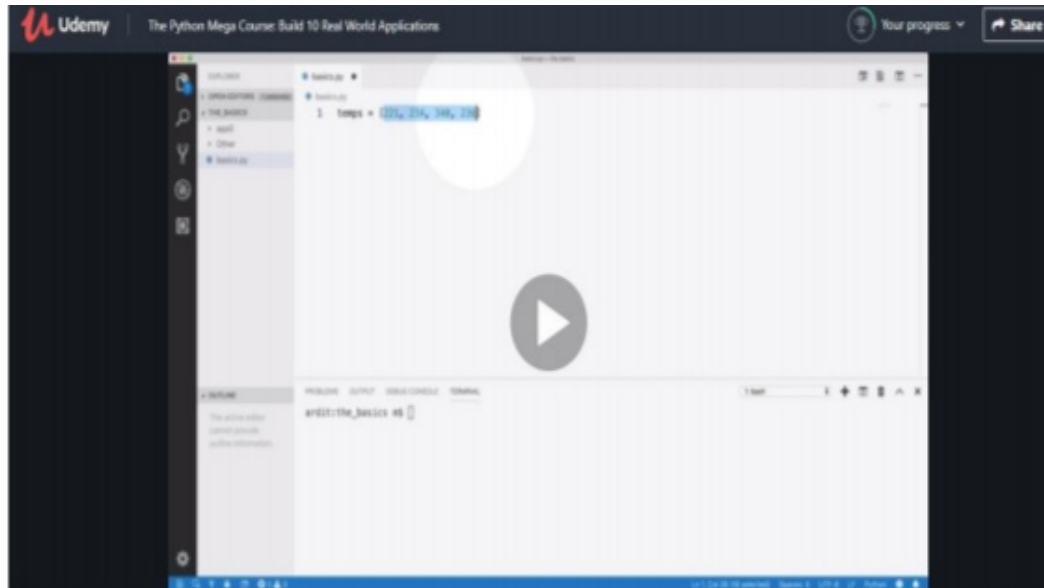
Topic: python

Semester &  
Section:

6th sem Asec

## AFTERNOON SESSION DETAILS

### Image of session



## Python

26/05/2020

Application 4:- Build a Personal website with Python and Flask

-> Building first website

First create a python file and then write the code in the file.

```
from flask import Flask
app = Flask(__name__)
@app.route('/')
def home():
    return "website content goes here"
if __name__ == "__main__":
    app.run(debug=True)
```

-> From flask import Flask, render\_template

```
app = Flask(__name__)
@app.route('/')
def home():
    return render_template("about.html")
```

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

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<header>
```

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

```
<h1 class="logo">Aradit's web page</h1>
```

```
<strong><nav>
```

```
<ul class="menu">
```

```
<li><a href="{url_for('home')}}">
```

```
<li><a href="{url_for('about')}}">about</li>
```

```
</ul>
```

```
</nav></strong>
```

```
</div>
```

```
</header>
```

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

```
{% block content %}
```

```
{% endblock %}
```

```
</div>
```

```
</body>
```

```
</html>
```

