

DAILY ASSESSMENT FORMAT

Date:	30 MAY 2020	Name:	Karegowda kn
Course:	Digital Signal Processing	USN:	4a16ec029
Topic:	Fourier Series and Gibbs Phenomenon using Python, Laplace transform using Matlab,Z Transform Using Matlab.	Semester & Section:	6 th sem & B sec
Github Repository:	karegowda-courses		

FORENOON SESSION DETAILS

Report –

Fourier Series and Fourier Transform Fourier Series

Fourier Transform

$$f(x) = \sum_{k=-\infty}^{\infty} (a_k \cos 2\pi kx + b_k \sin 2\pi kx)$$

–∞

∞

$$X(F) = \int_{-\infty}^{\infty} x(t) e^{-j2\pi Ft} dt$$

2

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: 30 MAY 2020

Name: Karegowda kn

Course: Python

USN: 4al16ec029

Topic: File processing

Semester 6th sem & B sec
& Section:

AFTERNOON SESSION DETAILS

Report--

1. The concept of processing files in python

2. Reading text from a file

```
myfile = open("fruit.txt")  
print (myfile.read())
```

Text file:

pear

apple

orange

mandarin

watermelon

pomegranate

3. file cursor

```
myfile = open("fruit.txt")  
content = myfile.read()  
print (content)
```

4. closing a file

```
myfile = open("fruit.txt")
```



```
content = myfile.read()
myfile = close("fruit.txt")
print (content)
```

5.opening files using with

```
with open("fruit.txt) as myfile:
    content = myfile.read()
```

```
print (content)
```

6.Different file paths

Here txt file will be saved in different directory called files and using this file we will execute the program

```
myfile = open("files/fruit.txt")
content = myfile.read()
print (content)
```

OR

```
with open("files/fruit.txt) as myfile:
content = myfile.read()
```





