Date: 20/5/2020 Afternoon Session

Name: Sneha G

Course: Python.

USN: 4AL18EC090

Sem, Sec: IV, B

Topic:
- Graphical user interfaces with Tkinter
- Interacting with databases

Github
Repository: Sneha-G19

Report:

⇒ Graphical user interfaces with Tkinter

- Introduction to Tkinter
- Setting up a GUI with Widgets
- Connecting GUI widgets with call back functions
- Creating a Mult-widget GUI

⇒ Interacting with Databases.

- Introduction to "python with databases"
- Connecting & Inserting data to SQLite via Python
- Selecting, Inserting, Deleting & Updating SQLite Records
- Introduction to PostgreSQL psycopg2
- Selecting, Inserting, Deleting & Updating PostgreSQL, Records
- Querying data from a MySQL databases

Date : 26/5/2020

Forenoon Session ~~Details~~

Name : Sneha.G
USN : 4AL18EC050
Sem & Sec : IV, A

Course : Signals & System

Topic :
- Fourier series & Gibbs phenomenal
- Fourier series → fourier transform
- Application & calculation z transform
- Intuition of fourier transform

Github Repository - Sneha-GLG

Report :

1.) Fourier series & Gibbs phenomena : As we increase the order of approximation from lower order from a very coarse approximation to a very high approximat it start off just being kind of one cosine function that a poor as we add it would look like it goes away & its perfect approximation

2.) Fourier series → Fourier transform : we generalize from periodic function on doma in L-I the fourier transform which is defined on infinite domain
- It is extensively used to solve PDE
- it is unitary operator.
- used to derive function or to transform partial differential into ODE

3). Application.

The convolution of two function F & G is defined as

$$f * g = \int_{-\infty}^{\infty} f(x-\xi)\, g(\xi)\, d\xi$$

Fourier transforming $f*g$, we get

$$F(f*g) = F(f) F(g) = \hat{f}\hat{g}$$

The transform of $f(t)$ & $y(t)$ are $F(s)$ & $Y(s)$

$$F(s) = \int_0^{\infty} f(-re^{-st}\, dt$$

- The purpose of Laplace transform is to convert a DE into algebraic

$$f(t) = e^{at} \Rightarrow F(s) = \int_0^{\infty} e^{at} e^{-st}\, dt$$

$$= \left[\frac{e^{(a-s)t}}{a-s}\right]_0^{t=\infty} = \frac{1}{s-a}.$$

- Laplace transform & Inverse laplace transform using Matlab.
- Application of z-transform
- How to calculate z transform in Matlab.
- Intuition of fourier transform & Laplace transform