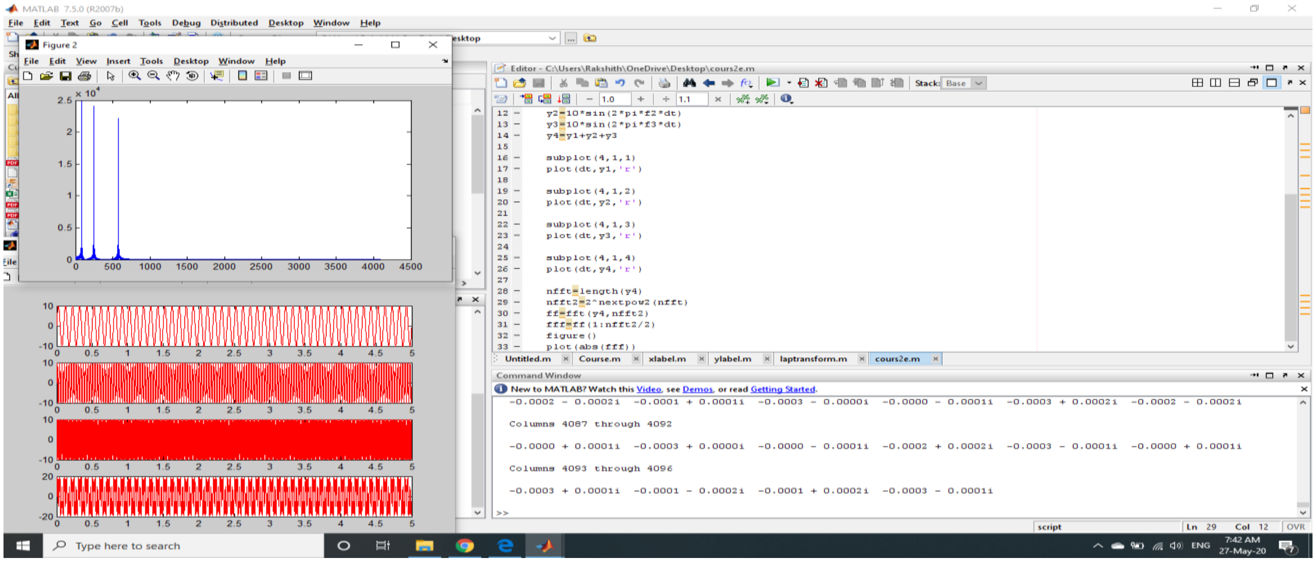
DAILY ASSESSMENT FORMAT

Date:	**27 may 2020**	**Name:**	**Sushmitha R Naik**
Course:	**DSP**	**USN:**	**4al17ec090**
Topic:	**FFT Using MATLAB, Study and Analysis of FIR and IIR, Filtering SignalECG Signal Analysis.**	**Semester & Section:**	**6th B**
GitHub Repository:	**Sushmitha_naik**		

FORENOON SESSION DETAILS

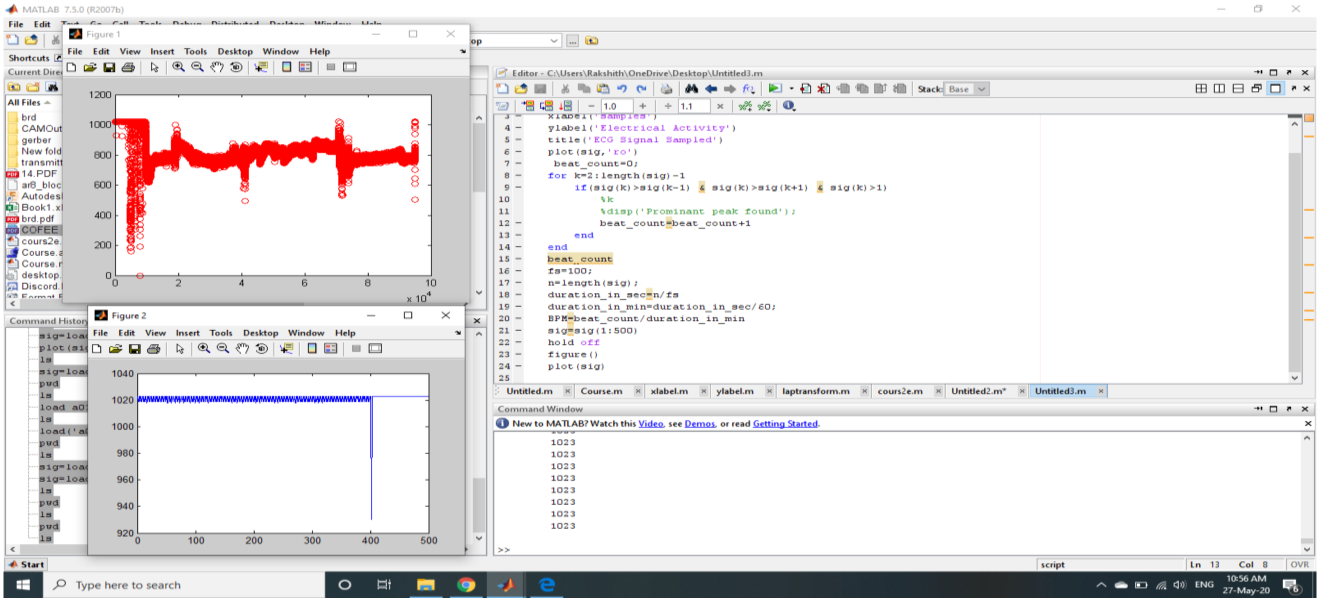
Image of session


MATLAB 7.5.0 (R2007b)
File Edit Text Go Cell Tools Debug Distributed Desktop Window Help
Figure 2
File Edit View Insert Tools Desktop Window Help
x 10^4
2.5
2
1.5
1
0.5
0
500 1000 1500 2000 2500 3000 3500 4000 4500
10 0 -10 20 -20
0.5 1 1.5 2 2.5 3 3.5 4 4.5 5
Editor - C:\Users\Rakshith\OneDrive\Desktop\cours2e.m
Stack: Base
Untitled.m Course.m xlabel.m ylabel.m laptransform.m cours2e.m
Command Window
script Ln 29 Col 12 OVR
Type here to search
7:42 AM
27-May-20

```
y2=10*sin(2*pi*f2*dt)
y3=10*sin(2*pi*f3*dt)
y4=y1+y2+y3

subplot(4,1,1)
plot(dt,y1,'r')

subplot(4,1,2)
plot(dt,y2,'r')

subplot(4,1,3)
plot(dt,y3,'r')

subplot(4,1,4)
plot(dt,y4,'r')

nfft=length(y4)
nfft2=2^nextpow2(nfft)
ff=fft(y4,nfft2)
fff=ff(1:nfft2/2)
figure()
plot(abs(fff))
```

New to MATLAB? Watch this Video, see Demos, or read Getting Started.

```
  -0.0002 - 0.0002i  -0.0001 + 0.0001i  -0.0003 - 0.0000i  -0.0000 - 0.0001i  -0.0003 + 0.0002i  -0.0002 - 0.0002i

  Columns 4087 through 4092

  -0.0000 + 0.0001i  -0.0003 + 0.0000i  -0.0000 - 0.0001i  -0.0002 + 0.0002i  -0.0003 - 0.0001i  -0.0000 + 0.0001i

  Columns 4093 through 4096

  -0.0003 + 0.0001i  -0.0001 - 0.0002i  -0.0001 + 0.0002i  -0.0003 - 0.0001i

>>
```



```
sig=loa
plot(si
ls
sig=loa
pwd
ls
load a0
ls
load('a
pwd
ls
sig=loa
sig=loa
ls
pwd
ls
pwd
ls
```

```
xlabel('Samples')
ylabel('Electrical Activity')
title('ECG Signal Sampled')
plot(sig,'ro')
 beat_count=0;
for k=2:length(sig)-1
    if(sig(k)>sig(k-1) & sig(k)>sig(k+1) & sig(k)>1)
        %k
        %disp('Prominant peak found');
        beat_count=beat_count+1
    end
end
beat_count
fs=100;
n=length(sig);
duration_in_sec=n/fs
duration_in_min=duration_in_sec/60;
BPM=beat_count/duration_in_min
sig=sig(1:500)
hold off
figure()
plot(sig)
```

New to MATLAB? Watch this Video, see Demos, or read Getting Started.

```
        1023
        1023
        1023
        1023
        1023
        1023
        1023
        1023

>>
```

Report:

Fast Fourier Transform Using MATLAB

```
clear all;
close all;
clc;
fs=1000
ts=1/fs
dt=0:ts:5-ts
f1=10;
f2=30;
f3=70

y1=10*sin(2*pi*f1*dt)
y2=10*sin(2*pi*f2*dt)
y3=10*sin(2*pi*f3*dt)
y4=y1+y2+y3

subplot (4,1,1)
plot (dt, y1,'r')

subplot (4,1,2)
plot (dt, y2,'r')

subplot (4,1,3)
plot (dt, y3,'r')

subplot (4,1,4)
plot (dt, y4,'r')

nfft=length(y4)
nfft2=2^nextpow2(nfft)
ff=fft (y4, nfft2)
fff=ff (1: nfft2/2)
figure ()
xfft=fs*(0: nfft2/2)/nfft2
plot(abs(fff))
```

ECG Signal Analysis Using MATLAB

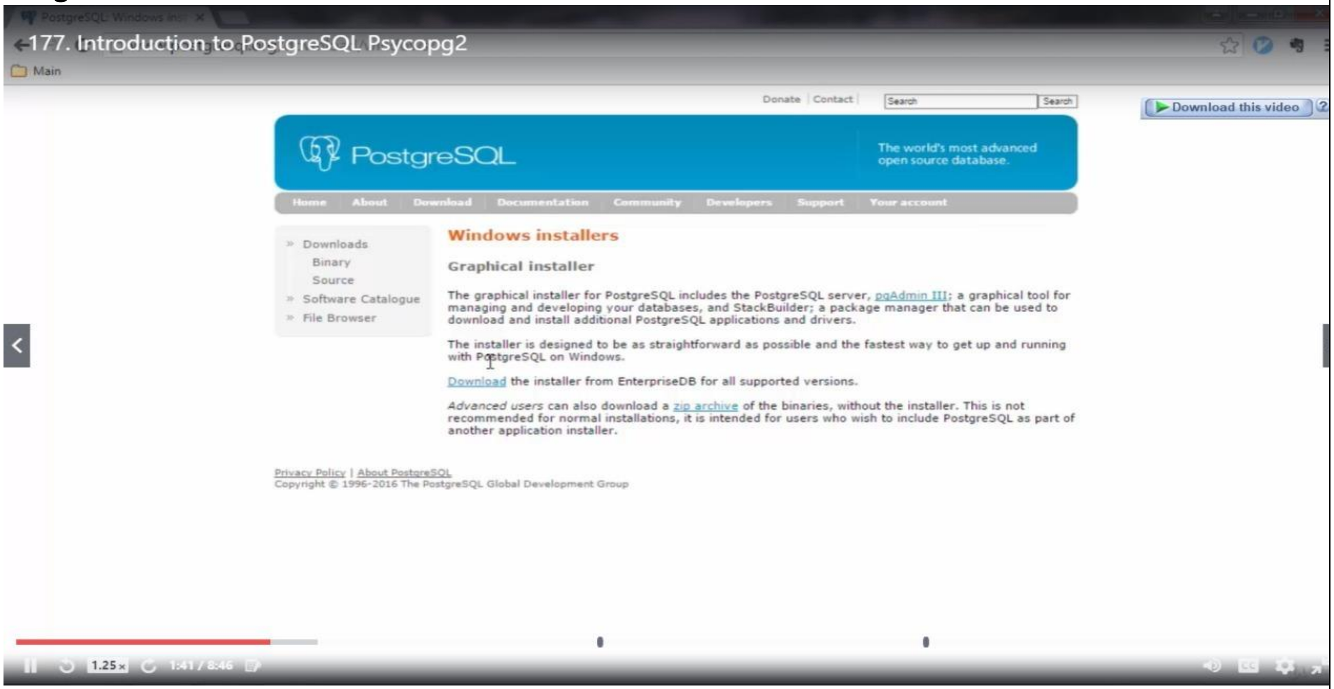
```
sig=load('ecg.csv')
plot(sig)
xlabel('samples')
ylabel ('Electrical Activity')
title ('ECG Signal Sampled')
plot(sig,'ro')
 beat_count=0;
```

```
for k=2: length (sig)-1
   if(sig(k)>sig(k-1) & sig(k)>sig(k+1) & sig(k)>1)
      %k
      %disp ('Prominent peak found');
      beat_count=beat_count+1
   end
end
beat_count
fs=100;
n=length(sig);
duration_in_sec=n/fs
duration_in_min=duration_in_sec/60;
BPM=beat_count/duration_in_min
sig=sig (1:500)
hold off
figure ()
plot(sig)
```

Date:	**27 may 2020**	**Name:**	**Sushmitha R Naik**
Course:	**PYTHON**	**USN:**	**4al17ec090**
Topic:	**GUI with Tkinter, Interfacing with databases**	**Semester & Section:**	**6th B**

AFTERNOON SESSION DETAILS

Image of session


177. Introduction to PostgreSQL Psycopg2

Windows installers

Graphical installer

The graphical installer for PostgreSQL includes the PostgreSQL server, pgAdmin III; a graphical tool for managing and developing your databases, and StackBuilder; a package manager that can be used to download and install additional PostgreSQL applications and drivers.

The installer is designed to be as straightforward as possible and the fastest way to get up and running with PostgreSQL on Windows.

Download the installer from EnterpriseDB for all supported versions.

Advanced users can also download a zip archive of the binaries, without the installer. This is not recommended for normal installations, it is intended for users who wish to include PostgreSQL as part of another application installer.

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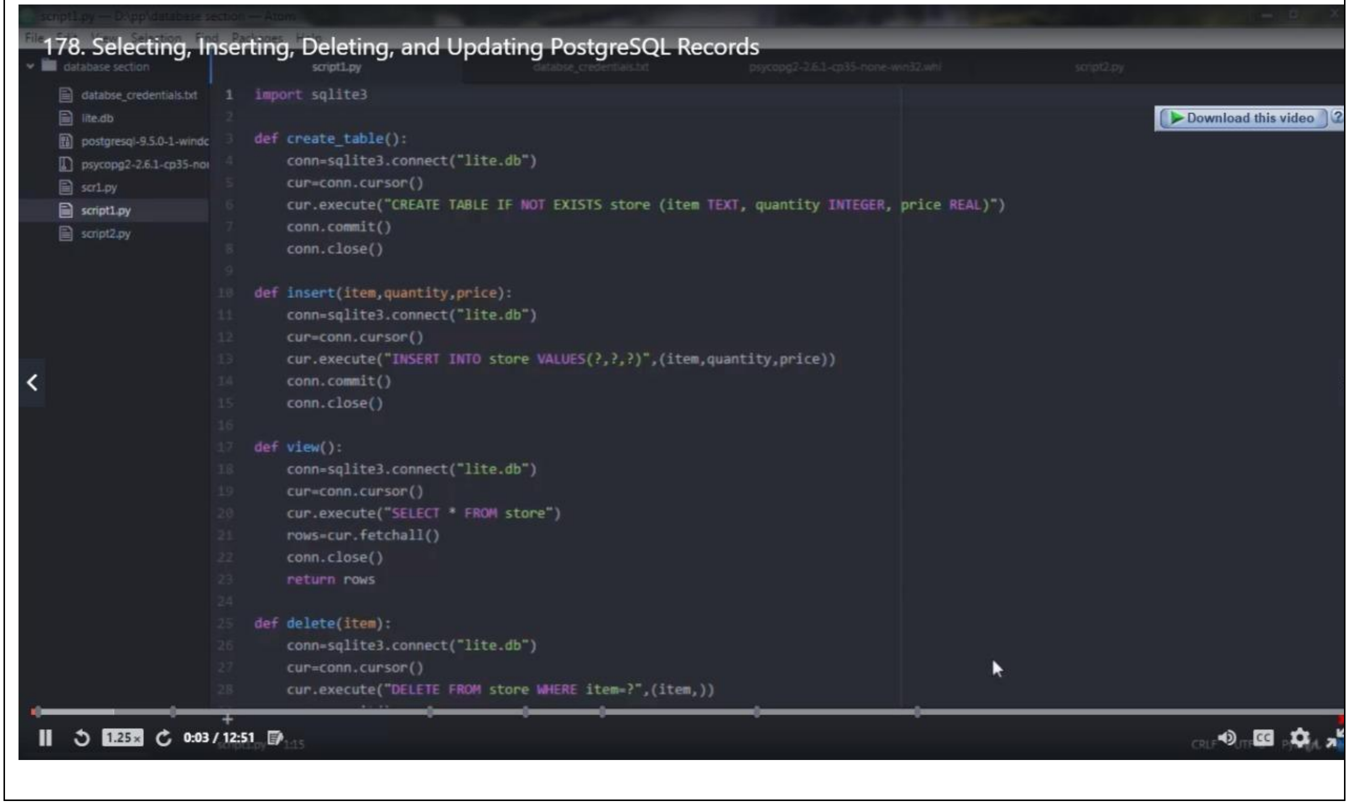

178. Selecting, Inserting, Deleting, and Updating PostgreSQL Records

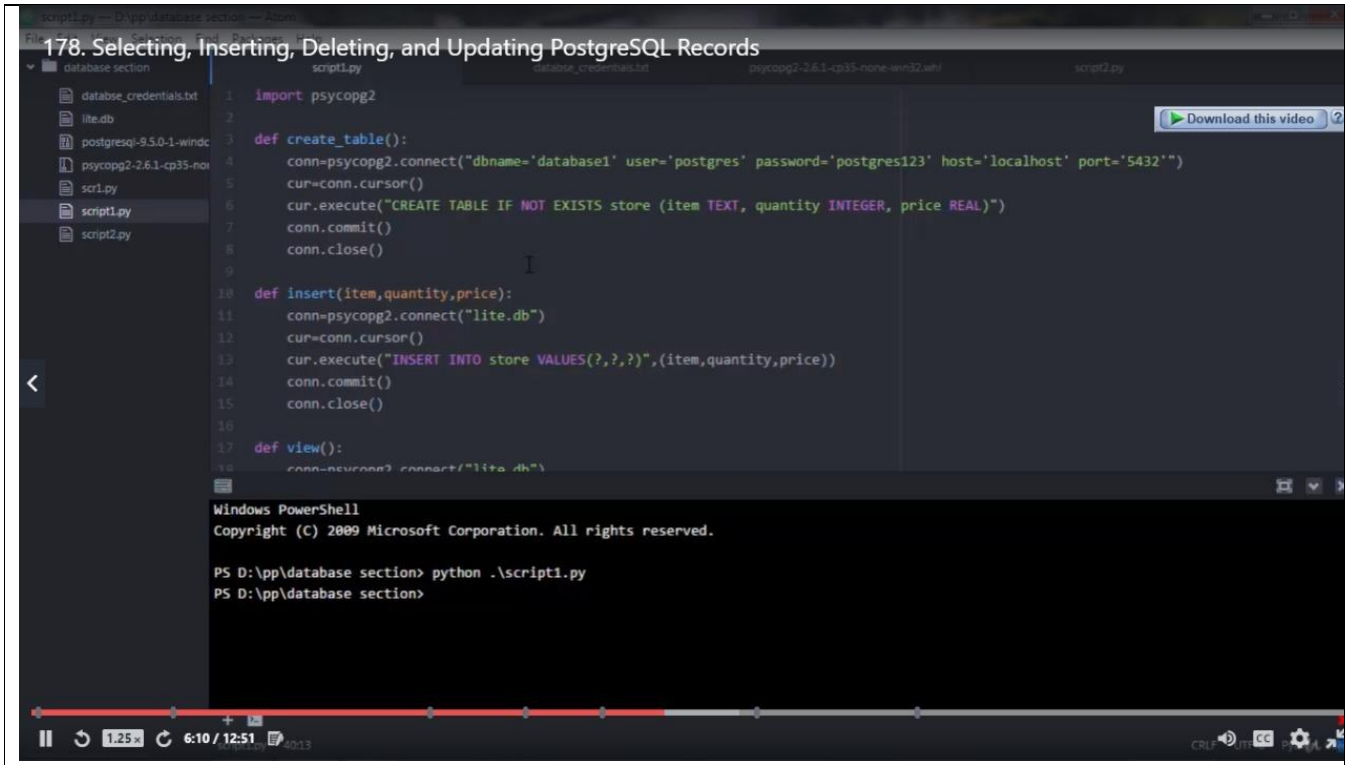
```
import sqlite3

def create_table():
    conn=sqlite3.connect("lite.db")
    cur=conn.cursor()
    cur.execute("CREATE TABLE IF NOT EXISTS store (item TEXT, quantity INTEGER, price REAL)")
    conn.commit()
    conn.close()

def insert(item,quantity,price):
    conn=sqlite3.connect("lite.db")
    cur=conn.cursor()
    cur.execute("INSERT INTO store VALUES(?,?,?)",(item,quantity,price))
    conn.commit()
    conn.close()

def view():
    conn=sqlite3.connect("lite.db")
    cur=conn.cursor()
    cur.execute("SELECT * FROM store")
    rows=cur.fetchall()
    conn.close()
    return rows

def delete(item):
    conn=sqlite3.connect("lite.db")
    cur=conn.cursor()
    cur.execute("DELETE FROM store WHERE item=?",(item,))
```



```
import psycopg2

def create_table():
    conn=psycopg2.connect("dbname='database1' user='postgres' password='postgres123' host='localhost' port='5432'")
    cur=conn.cursor()
    cur.execute("CREATE TABLE IF NOT EXISTS store (item TEXT, quantity INTEGER, price REAL)")
    conn.commit()
    conn.close()

def insert(item,quantity,price):
    conn=psycopg2.connect("lite.db")
    cur=conn.cursor()
    cur.execute("INSERT INTO store VALUES(?,?,?)",(item,quantity,price))
    conn.commit()
    conn.close()

def view():
    conn=psycopg2.connect("lite.db")
```

```
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. All rights reserved.

PS D:\pp\database section> python .\script1.py
PS D:\pp\database section>
```

Report –

- **Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications**

- **Import the Tkinter module.**

- **Create the GUI application main window.**

- **Add one or more of the above-mentioned widgets to the GUI application.**

- **Enter the main event loop to take action against each event triggered by the user.**

- **Tkinter provides various controls, such as buttons, labels and text boxes used in a GUI application. These controls are commonly called widgets.**

- **Making widgets functional involves the pressing of keys on a keyboard, and mouse clicks.**

- **The simplest way to add functionality to a button is by adding a callback function is mentioned in the form of command = some_callback in the widget option.**

- **After defining the callback, we can connect it to GUI.**

- **Then we also learnt on how to create a multi widget GUI.**

- **The program starts by importing the sqlite3 library.**

- **Then we establish a connection to the database.**

- **we are using SQLite, so we need to specify is the name of the database file.**
- **Then it uses this connection to create a cursor.**
- **Then we use that cursor to ask the database to execute anything for us.**
- **The query is written in SQL, and passed to cursor. Execute as a string.**
- **The database returns the results of the query to us.**

- **Then we learnt on some of the formatting techniques like inserting, deleting, and updating.**

- **Psycopg2 is the most popular python driver for PostgreSQL.**
- **We need to install Psycopg2 to use PostgreSQL from Python.**
- **Similar to SQLite, we learnt the same formatting techniques for PostgreSQL too.**