**DAILY ASSESSMENT FORMAT**

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| **Date:** | **27/5/2020** | | **Name:** | **Abhishek Vasudev Mahendrakar** | | |
| **Course:** | **TCS ION** | | **USN:** | **4AL17EC003** | | |
| **Topic:** | **FFT Using MATLAB, Study and Analysis of FIR and IIR, Filtering Signal, ECG Signal Analysis** | | **Semester & Section:** | **6th-‘A’** | | |
| **Github Repository:** | **ECEAbhishekVMahendrakar** | | **E-mail:** | **abhi2244mahendrakar@gmail.com** | | |
| **FORENOON SESSION DETAILS** | | | | | |
| **Image of session**  **DSPPPPPPPPPPPPPPPP.JPG** | | | | | |
| **Report – Report can be typed or hand written for up to two pages.**  **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:** | **27/5/2020** | **Name:** | | | **Abhishek Vasudev Mahendrakar** |
| **Course:** | **UDEMY-The Python Mega Course: Build 10 real world applications** | **USN:** | | | **4AL17EC003** |
| **Topic:** | 1. **GUI with Tkinter** 2. **Interfacing with databases** | **Semester & Section:** | | | **6th-‘A’** |
| **AFTERNOON SESSION DETAILS** | | | | | |
| **Image of session**  **2222222222222222222.JPG** | | | | | |
| **Report – Report can be typed or hand written for up to two pages.**   * **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.** | | | | | |