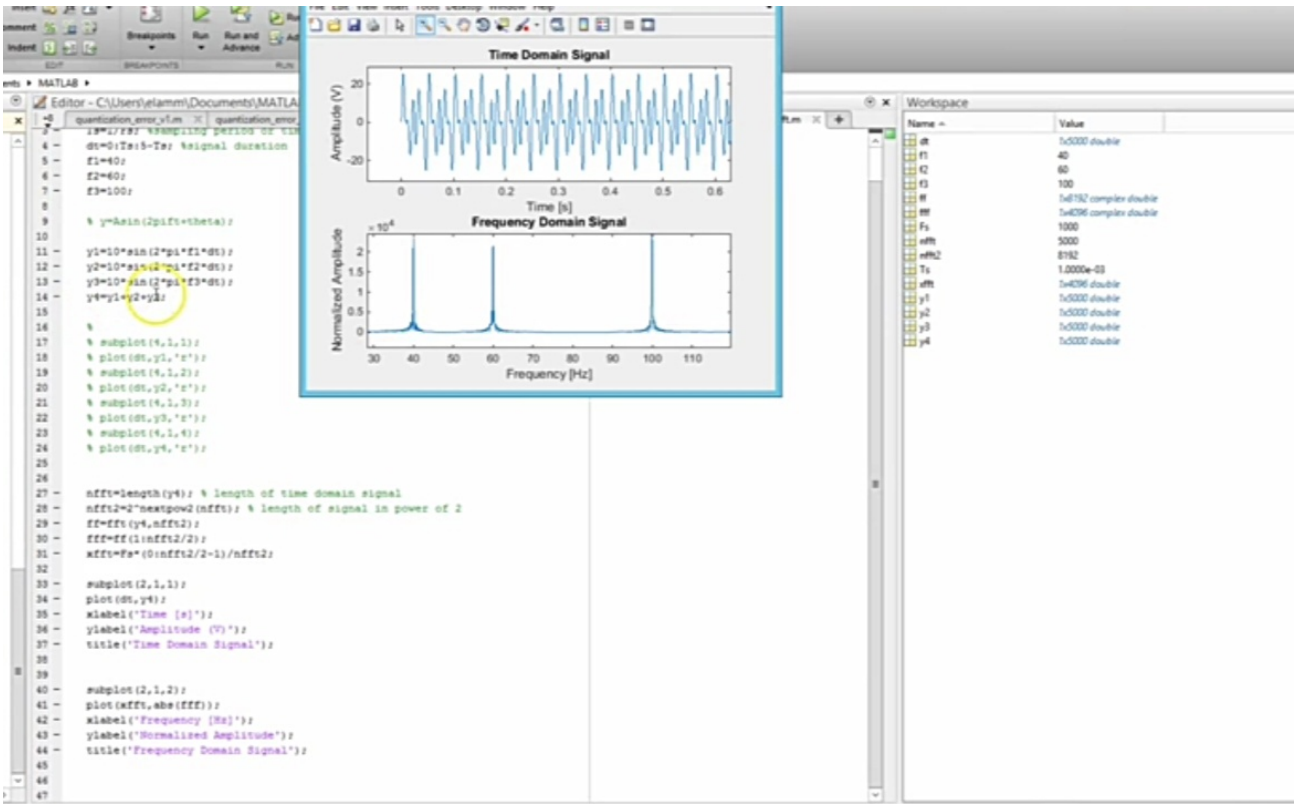
DAILY ASSESSMENT FORMAT

Date:	27/05/2020	Name:	Akshatha M Deshpande
Course:	DSP	USN:	4AL17EC006
Topic:	Fast Fourier Transforms ,FIR and IIR Filters,Implementation of signal Filtering signal using WT in Matlab,Short-time Fourier Transform and the Spectogram,Welch's method and windowing	Semester & Section:	6th Sem A sec
Github Repository:	AkshathaDeshpande		

FORENOON SESSION DETAILS
Image of session


Report – Report can be typed or hand written for up to two pages.

Laplace Transform :-

```
clc;
clear all;
syms t f t;
f = (exp(-3*t) * sin(2*t))/t
L = laplace(f)
```

Output → atan (2/s+3)

Inverse Laplace transform :-

```
clc;
clear all;
syms F s
F = 1/(s^2 + 1)
ilaplace(f)
```

Output → sint

Fourier Transform :-

$$F(s) = \int_{-\infty}^{\infty} f(x)\, e^{isx}\, dx \rightarrow FT$$

$$f(x) = \frac{1}{2\pi} \int_{-\infty}^{\infty} F(s)\, e^{-isx}\, ds \rightarrow IFT$$

$$x_p = \sum_{n=0}^{N-1} x_n \cdot \omega_N^{Pn} \qquad N=2$$

↳ $\omega_N = e^{-j\frac{2\pi}{N}}$

$$X_0 = x_0\, e^{-j2\pi(0)(0)/2} + x_1\, e^{-j2\pi(1)(0)/2}$$

$$X_0 = x_0 + x_1$$

IIR Filter :-

* Consider system described by transfer function.

$$H(z) = \frac{b_3 z^3 + b_2 z^2 + b_1 z + b_0}{z^3 + a_2 z^2 + a_1 z + z_0}$$

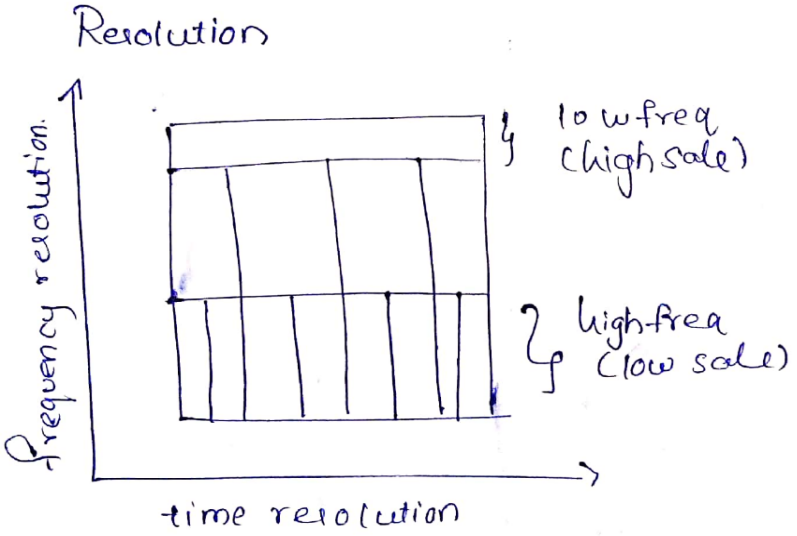
* The corresponding difference equation is.

$$y[k] = -a_2 y[k-1] - a_1 y[k-2] - a_0 y[k-3] + b_3 f[k] + b_2 f[k-1] + b_1 f[k-2] + b_0 f[k-3]$$

Shows the current o/p is a function of current past inputs & past outputs.

* It's a recursive function.

Wavelet Transform :-



Correlation :-

$$X(a,b) = \int_{-\infty}^{\infty} x(t)\, \psi^*_{a,b}(t)\, dt$$

Vanishing Moments :-

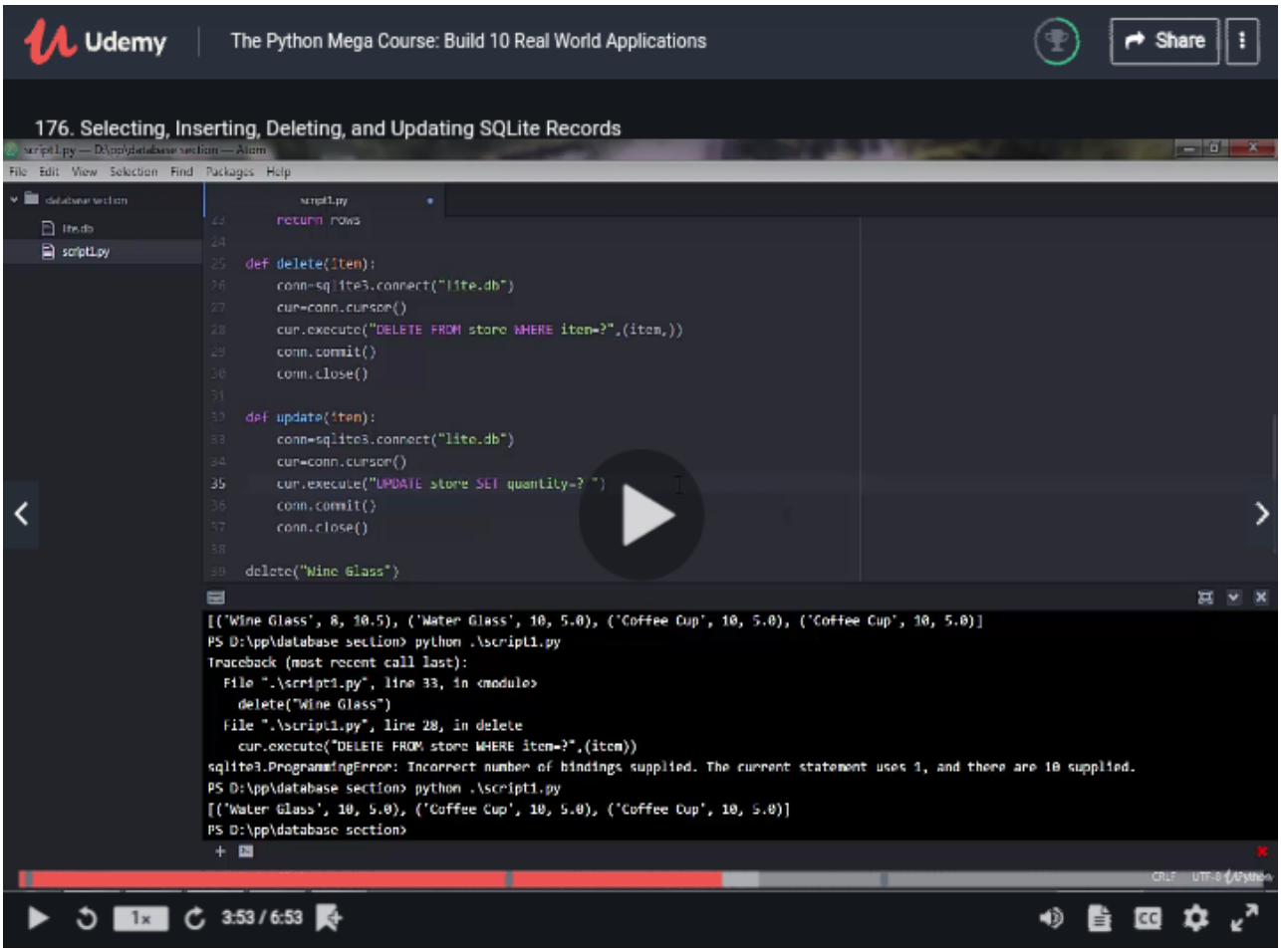
$$M_k = \int_{-\infty}^{\infty} f(x)\, x^k\, dx$$

moment is "vanishes" if integral is zero.

Date:	27/05/2020	Name:	Akshatha M Deshpande
Course:	Python	USN:	4AL17EC006
Topic:	Graphical user interface with tkinter, Interacting with databases	Semester & Section:	6th Sem A sec

AFTERNOON SESSION DETAILS

Image of session



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Graphical User Interfaces with Tkinter :-

* Introduction to tkinter
  - -> It works only offline, the online compilers doesn't support this function.
  - -> How to get started with tkinter.
* Setting up a GUI with widgets.
* Connecting gui widgets with callback functions.
* How to create a multi-widget GUI (practice)

  tip :- 1kg = 1000g
  1kg = 2.20462 pounds
  when multiples are required.

Interacting with databases :-

* Introduction to python with data with bases.
* Connecting & Inserting data
  - -> SQLite via python is used
  - -> How to view, delete and update the rows or columns in a table.
  - -> How to create a table.
* How data selecting, inserting, deleting & updating
  - -> using different functions for different operations.
  - -> using .connect to connect, .commit to commit
  - -> .close to close.
* Introduction to postgre SQL psycopg2
* selecting, Inserting, deleting & updating in that
* Quering data from a Mysql database.