Daily Assessment format

Date: 23/5/2020
Name: Jyoti S. Donur
USN: 4AL17EC037
Course: Dsp
Topic: fourier series
Github repository: jyoti-courses

forenoon session details

image of session
1. introduction
2. fourier series part1,2
3. inner product in hilbert transform
4. complex fourier series
5. fourier series using Matlab
6. fourier series using Python
7. fourier series & gibbs phenomena

Introduction
1. fourier series & wavelets
2. coordinate transform - used for image compression
3. Hilbert transform
4. fast fourier transform (FFT)

Discrete fourier transform
→ it converts a finite sequence of equally spaced samples of a function into a same length sequence of equally-samples of DTFT Analyzing the fucs.

fourier series
A fourier series is a way of representing a periodic fucs as a sum of sine & cosine functions. It is analogous to a taylor series, which represents fucs as possibly infinite sums of monomial terms. A sawtooth wave represented by a successively larger sum of trignometric terms.

$$a_n = \frac{1}{\pi}\int_{-\pi}^{\pi} s(x)\cos(nx)\,dx = 0, \quad n \geq 0$$

$$b_n = \frac{1}{\pi}\int_{-\pi}^{\pi} s(x)\sin(nx)\,dx$$

$$= \frac{-2}{\pi n}\cos(n\pi) + \frac{2}{\pi^2 n^2}\sin(n\pi)$$

$$= \frac{2(-1)^{n+1}}{\pi n}, \quad n \geq 1$$

Inner product in Hilbert space

A hilbert space H is a real or complex inner product space that is also a complete metric space with respect to the distance fun^{n} induced by the inner product.

Complex fourier series

→ The complex fourier series is presented first with period 2π, then with general period

→ using matlab.

Daily assessment format

Date: 23/5/2020
Course: Python
Topic: code challenge
Github repository: jyith-courses

Name: Jyothis Donns
USN: 4AL17EC039

Afternoon session

Report

challenge

Write python code to verify user_name: "Micheal" & password = "e3$WT89x". The total no of attempts are 03 for every wrong user_name and password print - invalid username or password, upon three attempts fails print account locked.
if inputs are correct print - you have successfully logon

code

```
attempt = 0
while attempt<3:
    user_name = input("Enter the username:")
    password = input("Enter the password:")
    if user_name:"Micheal" and password:"e3$WT89x":
        print("you have successfully loged in")

    else:
        attempt+ =1
        print ("Invalid username or password")

print("Account locked")
```

output

```
Enter the username: Micheal
Enter the password: e3$WT89x
you have successfully logged in
Enter the username: e
Enter the password: d
```

Invalid username or password.