**DAILY ASSESSMENT FORMAT**

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| **Date:** | **25 MAY 2020** | **Name:** | **Akshay** |
| **Course:** | **Digital Signal Processing** | **USN:** | **4AL17EC008** |
| **Topic:** | **Introduction to Fourier Series,Fourier Transform,Hilbert Transform,Fourier Series Using Matlab** | **Semester & Section:** | **6th sem & A sec** |
| **Github Repository:** | **Akshay-Online-Course** |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session**   |  | | --- | |  | |  | |
| **Report – Report can be typed or hand written for up to two pages.**  **Introduction to Fourier Series and Fourier Transform Fourier Series**  **Fourier Transform Euler's Formula**  ∞ *f*(*x*)=1*a*0 +∑(*akcos*2*kt*+*bksin*2*kt*)  −∞  ∞ *X*(*F*) = ∫ *x*(*t*)*e*−*j*2*Ftdt*  −∞ *N*−1  *Xk* = ∑ *xn ej*2Π*kn*/*N n*=0  2  **Hilbert Transform**  **Complex Fourier Series**  *Xk* = *x*0[*cos*(− *b*0) + *jsin*(− *b*0) + .... *X K* = *AK* + *BKj*  *b*  < *f*(*x*),*g*(*x*) >= ∫*f*(*x*)*g*(*x*) *dx a*  *n* <*f*,*g*>Δ*X*= ∑*f*(*x*,*K*)*g*(*x*)Δ*X K*=1  ∞ *f*(*x*)= ∑ *CkeiKX k*=−∞  *eiKX* = *cos*(*Kx*) + *isin*(*Kx*)  **Fourrier Series Using Matlab clear all close all clc**  **figure set(gcf,'Position',[1500 200 2000 1200]) %define domain L=pi; N=1024; dx=2\*L/(N-1); x=L:dx:L; %Define hat function f=0\*x; f(N/4:N/2)=4\*(1:N/4+1)/N; f(N/2+1:3\*N/4)=1-4\*(0:N/4-1)/N; plot(x,f,'-k','Linewidth',3.5),hold on %compute fourier series**  **CC=jet(20) A0=sum(f.\*ones(size(x)))\*dx/pi; fFs=A0/2; for k=1:20;**  ππ < φ φ >= ∫ *eijke*−*jkXdx* = ∫ *ei*(*j*−*k*)*Xdx* = 1 [*ei*(*j*−*K*)*x*]π  *j*, *k i*(*j*−*K*) −π −π −π  0 *i f j* =/ *k* 2π *if j* = *k*    **A(k)=sum(f.\*cos(pi\*k\*x/L))\*dx/pi;**  **B(k)=sum(f.\*sin(pi\*k\*x/L))\*dx/pi; fFs=fFs+A(k)\*cos(k\*pi\*x/L)+B(k)\*sin(k\*pi\*x/L); plot(x,fFs,'-','color',CC(k,:),'Linewidth',2) pause(.1)**  **end %% plot amplitudes figure; set(gcf,'Position',[1500 200 2000 1200]) clear ERR clear A fFs=A0/2; A(1)=A0/2/pi; ERR(1)=norm(f-fFs); kmax=100; for k=1:kmax**  **A(k+1)=sum(f.\*cos(pi\*k\*x/L))\*dx; B(k+1)=sum(f.\*sin(pi\*k\*x/L))\*dx; fFs=fFs+A(k+1)\*cos(k\*pi\*x/L)+B(k+1)\*sin(k\*pi\*x/L); ERR(k+1)=norm(f-fFs)/norm(f);**  **end thresh=median(ERR)\*sqrt(kmax)\*4/sqrt(3); r=max(find(ERR>thresh)); r=7; subplot(2,1,1) semilogy(0:1:kmax,A,'k','linewidth',1.5) hold on semilogy(r,A(r+1),'co','Linewidth',15,'MarkerFaceColor','c') xlim([0 kmax]) xlim([10^(-7) 1]) ylabel('Mode Amplitude','FonSize',16) subplot(2,1,2) semilogy(0:1:kmax,ERR,'k','Linewidth',1.5) hold on semilogy(r,ERR(r+1),'co','Linewidth',15,'MarkerFaceColor','c') xlabel('Mode Number,k','FontSize',16) ylabel('Reconstruction Error','FontSize',16)**  **Fourier Series and Gibbs Phenomena [Matlab] clear all; close all; l=2\*pi**  **N=1024 dx=l/(N-1) x=0:dx:l**  **f=zeros(size(x)) f(256:768)=1 figure set(gcf,'Position',[1500 200 2000 1000]) fFs=zeros(size(x)); A0=(1/pi)\*sum(f.\*ones(size(x)))\*dx;**  **for m=1:100 fFs=A0/2; for k=1:m**  **Ak=(1/pi)\*sum(f.\*cos(2\*pi\*k\*x/l))\*dx; Bk=(1/pi)\*sum(f.\*sin(2\*pi\*k\*x/l))\*dx; fFs=fFs+Ak\*cos(2\*k\*pi\*x/l)+Bk\*sin(2\*k\*pi\*x/l)**  **end plot(x,f,'k','LineWidth',2) hold on plot(x,fFs,'k','LineWidth',1.5) pause(0.1)**  **end** |

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| **Date:** | **25 MAY 2020** | **Name:** | **Akshay** |
| **Course:** | **PYTHON** | **USN:** | **4AL17EC008** |
| **Topic:** | **Fixing Programing Errors,Website Blocker** | **Semester & Section:** | **6th sem & A sec** |
| **AFTERNOON SESSION DETAILS** | | | |
| **Image of session** | | | |
| **Report – Report can be typed or hand written for up to two pages.**  **Website Blocker**  **import time from datetime import datetime as dt**  **hosts\_temp=r"D:\Dropbox\pp\block\_websites\Demo\hosts" hosts\_path="/etc/hosts" redirect="127.0.0.1" website\_list=["www.facebook.com","facebook.com","dub119.mail.live.com","www.dub119.mail .live.com"]**  **while True: if dt(dt.now().year,dt.now().month,dt.now().day,8) < dt.now() <**  **dt(dt.now().year,dt.now().month,dt.now().day,16): print("Working hours...") with open(hosts\_path,'r+') as file:**  **content=file.read() for website in website\_list:**  **if website in content: pass**  **else: file.write(redirect+" "+ website+"\n")**  **else: with open(hosts\_path,'r+') as file:**  **content=file.readlines() file.seek(0) for line in content:**  **if not any(website in line for website in website\_list): file.write(line)**  **file.truncate() print("Fun hours...")**  **time.sleep(5)** | | | |