DISCRETE TIME SIGNAL

PROGRAM:

A.

% 2^n\*u(n)

n=-3:3

for i=1:length(n)

if i<4

x(i)=0;

else

x(i)=1;

end

end

y=(2.^n).\*x

subplot(5,1,1)

stem(n,y);

% 2^n\*u(n-1)

n=-3:3

for i=1:length(n)

if i<5

x(i)=0;

else

x(i)=1;

end

end

y1=(2.^n).\*x

subplot(5,1,2)

stem(n,y1);

% 2^n\*u(n+1)

n=-3:3

for i=1:length(n)

if i<3

x(i)=0;

else

x(i)=1;

end

end

y2=(2.^n).\*x

subplot(5,1,3)

stem(n,y2);

% 2^n\*u(-n-1)

n=-3:3

for i=1:length(n)

if i>3

x(i)=0;

else

x(i)=1;

end

end

y3=(2.^n).\*x

subplot(5,1,4)

stem(n,y3);

% 2^n\*u(-n+1)

n=-3:3

for i=1:length(n)

if i>5

x(i)=0;

else

x(i)=1;

end

end

y4=(2.^n).\*x

subplot(5,1,5)

stem(n,y4);

B.

% cos(0.125\*n\*pi)

n=-50:50

y=cos(0.125.\*n.\*pi);

t=2/(0.125)

subplot(2,1,1)

stem(n,y);

title('cos(0.125\*n\*pi)');

% cos(0.5\*n\*pi)

n=-25:25

y1=cos(0.5.\*n);

t1=(2\*pi)./(0.5)

subplot(2,1,2)

stem(n,y1);

title('cos(0.5\*n\*pi)');

C.

% i

n=-3:8

for i=1:length(n)

if i<4

x(i)=2;

else

x(i)=0;

end

end

subplot(4,1,1)

stem(n,x)

title('i');

%ii

n=-3:3

u=[-2 -2 4 4 4 -2 -2]

subplot(4,1,2)

stem(n,u)

title('ii');

%iii

n=0:5

for i=1:length(n)

if i<7

x1(i)=i-1;

else

x1(i)=0;

end

end

subplot(4,1,3)

stem(n,x1)

title('iii');

%iv

n=0:8

for i=1:length(n)

if i<5

x2(i)=(1/i);

else

x2(i)=2;

end

end

subplot(4,1,4)

stem(n,x2)

title('iv');