# MODUL PRAKTIKUM

[Kamis, 04 Juni 2026]

**Praktikum 1**

Buat script Matlab dan simpan hasilnya dengan nama **"filterdigital1_namamhs".**

```
% h(n)= 7 ones, H(w) of the digital filter
n=-3:1:3; %sample times
h=ones(7,1); % vector of 7 ones
subplot(1,2,1); stem(n,h,'k'); %plots h(n)
axis([-4 4 0 1.2]); title('h(n)'); xlabel('n');
%discrete Fourier transform:
H1=real(fft(h,512)); Hf=H1/max(H1);
w=-pi:(2*pi/511):pi;
subplot(1,2,2); plot(w,fftshift(Hf),'k'); %plots H(w)
axis([-pi pi -0.3 1]); title('H(w)');
xlabel('normalized frequency');
hold on;
plot([-pi pi],[0 0],'--k'); %horizontal dotted line
```

**Praktikum 2**

Buat script Matlab dan simpan hasilnya dengan nama **"filterdigital2_namamhs".**

```
% h(n)= 13 ones, H(w) of the digital filter
n=-6:1:6; %sample times
h=ones(13,1); % vector of 13 ones
subplot(1,2,1); stem(n,h,'k'); %plots h(n)
axis([-7 7 0 1.2]); title('h(n)'); xlabel('n');
%discrete Fourier transform:
H1=real(fft(h,512)); Hf=H1/max(H1);
w=-pi:(2*pi/511):pi;
subplot(1,2,2); plot(w,fftshift(Hf),'k'); %plots H(w)
axis([-pi pi -0.3 1]); title('H(w)');
xlabel('normalized frequency');
hold on;
plot([-pi pi],[0 0],'--k'); %horizontal dotted line
```

**Praktikum 3**

Buat script Matlab dan simpan hasilnya dengan nama **"timeshifting_namamhs".**

```
% Truncation and time shifting
N=7;
%points of H(w):
H=[ones(N,1);zeros(128-N,1);
   zeros(128-N,1);ones(N,1)]';
h1=ifft(H,128); %inverse Fourier transform
h=ifftshift(h1); %compose symmetrical plot
h=real(h);
subplot(3,1,1);
n=-64:1:63; %number of plotted h(n)terms
stem(n,h,'k'); %plots h(n)
axis([-65 65 -0.015 0.06]);
ylabel('non-causal h(n)');
title('h(n) truncation and time-shift');
subplot(3,1,2);
n=-25:1:25; %number of truncated ht(n)terms
ht=h((64-25):(64+25)); %truncation of h(n)
stem(n,real(ht),'k'); %plots ht(n)
axis([-65 65 -0.015 0.06]);
ylabel('h(n) truncation');
subplot(3,1,3);
n=0:1:50; %time-shift of 25 samples
hf=ht;
stem(n,real(hf),'k'); %plots hf(n)
axis([-65 65 -0.015 0.06]);
ylabel('h(n) time-shift'); xlabel('n');
```

## Tugas :

- ✓ Ketik coding di Matlab kemudian Running liat hasil Running

## Laporan Praktikum : Kamis, 06 Juli 2023

- ✓ Tulis Nama, NPM, Kelas
- ✓ Tulis coding (tulis tangan)
- ✓ Gambar grafik tampilan
- ✓ Upload di LMS dalam bentuk .pdf