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```
clc;
clear;

%Variables
% N = Neutral : White
% L = Left    : Red
% R = Right   : Blue
fs = 200; % sesuai ganglion pakai 200Hz

% ambil data dan buang N pertama (pemanasan)
```

R11

load('D:\Jaler\OpenBCI_GUI_DataSkripsi\R11.txt'); data_raw = R11;

R12

```
load('D:\Jaler\OpenBCI_GUI\_DataSkripsi\R12.txt');
data_raw = R12;

% step 2. Notch 50Hz
[b,a] = butter(2,[49 51]/(fs/2), 'stop');
% bandpass Filter
[d,c] = butter(2,[0.5 50]/(fs/2), 'bandpass');
for i=1:4
 data_raw(:,i)=filter(b,a,data_raw(:,i));
 data_raw(:,i)=filter(d,c,data_raw(:,i));
end


for i=1:4
```

R11

```
 % N{i} = [{data_raw(1616:2222,i)};{data_raw(3238:4053,i)};
{data_raw(5065:5673,i)};...
 %        {data_raw(6691:7492,i)};{data_raw(8504:9106,i)}];
 % L{i} = [{data_raw(607:1615,i)};{data_raw(4054:5064,i)};
{data_raw(7493:8503,i)}];
 % R{i} = [{data_raw(2223:3237,i)};{data_raw(5674:6690,i)};
{data_raw(9107:10123,i)}];
```

R12

```
    N{i} = [{data_raw(1616:2224,i)};{data_raw(3242:4045,i)};
{data_raw(5059:5665,i)};...
        {data_raw(6679:7482,i)};{data_raw(8498:9102,i)}];
    L{i} = [{data_raw(607:1621,i)};{data_raw(4046:5058,i)};
{data_raw(7483:8497,i)}];
    R{i} = [{data_raw(2225:3241,i)};{data_raw(5666:6678,i)};
{data_raw(9103:10113,i)}];

end

for i=1:4
 n{1,i} = N{1,i}{1,1}(1:400,1);
    n{2,i} = N{1,i}{1,1}(201:600,1);
    n{3,i} = N{1,i}{2,1}(1:400,1);
    n{4,i} = N{1,i}{2,1}(201:600,1);
    n{5,i} = N{1,i}{2,1}(401:800,1);
    n{6,i} = N{1,i}{3,1}(1:400,1);
    n{7,i} = N{1,i}{3,1}(201:600,1);
    n{8,i} = N{1,i}{4,1}(1:400,1);
    n{9,i} = N{1,i}{4,1}(201:600,1);
    n{10,i} = N{1,i}{4,1}(401:800,1);
    n{11,i} = N{1,i}{5,1}(1:400,1);
    n{12,i} = N{1,i}{5,1}(201:600,1);

    l{1,i} = L{1,i}{1,1}(1:400,1);
    l{2,i} = L{1,i}{1,1}(201:600,1);
    l{3,i} = L{1,i}{1,1}(401:800,1);
    l{4,i} = L{1,i}{1,1}(601:1000,1);
    l{5,i} = L{1,i}{2,1}(1:400,1);
    l{6,i} = L{1,i}{2,1}(201:600,1);
    l{7,i} = L{1,i}{2,1}(401:800,1);
    l{8,i} = L{1,i}{2,1}(601:1000,1);
    l{9,i} = L{1,i}{3,1}(1:400,1);
    l{10,i} = L{1,i}{3,1}(201:600,1);
    l{11,i} = L{1,i}{3,1}(401:800,1);
    l{12,i} = L{1,i}{3,1}(601:1000,1);

    r{1,i} = R{1,i}{1,1}(1:400,1);
    r{2,i} = R{1,i}{1,1}(201:600,1);
    r{3,i} = R{1,i}{1,1}(401:800,1);
    r{4,i} = R{1,i}{1,1}(601:1000,1);
    r{5,i} = R{1,i}{2,1}(1:400,1);
    r{6,i} = R{1,i}{2,1}(201:600,1);
    r{7,i} = R{1,i}{2,1}(401:800,1);
    r{8,i} = R{1,i}{2,1}(601:1000,1);
    r{9,i} = R{1,i}{3,1}(1:400,1);
    r{10,i} = R{1,i}{3,1}(201:600,1);
    r{11,i} = R{1,i}{3,1}(401:800,1);
    r{12,i} = R{1,i}{3,1}(601:1000,1);
end
```

```
for i=1:4
 n_cat{i} = cat(2,n{:,i});
 n_mean{i} = mean(n_cat{i},2);

    l_cat{i} = cat(2,l{:,i});
    l_mean{i} = mean(l_cat{i},2);

    r_cat{i} = cat(2,r{:,i});
    r_mean{i} = mean(r_cat{i},2);
end

 figure(1);
    title('Focus Putih - R12');
 hold on
 plot(n_mean{1},'r');
 plot(n_mean{2},'g');
 plot(n_mean{3},'b');
 plot(n_mean{4},'m');
 hold off
    legend('CH1','CH2','CH3','CH4')

 figure(2);
    title('Focus Merah - R12');
 hold on
 plot(l_mean{1},'r');
 plot(l_mean{2},'g');
 plot(l_mean{3},'b');
 plot(l_mean{4},'m');
 hold off
    legend('CH1','CH2','CH3','CH4')

 figure(3);
    title('Focus Biru - R12');
 hold on
 plot(r_mean{1},'r');
 plot(r_mean{2},'g');
 plot(r_mean{3},'b');
 plot(r_mean{4},'m');
 hold off
    legend('CH1','CH2','CH3','CH4')


 plot(r_mean{1},'r');
```

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