LAMPIRAN-LAMPIRAN

DATA PENJUALAN JENANG MIRAH

No	Tahun	JAN	FEB	MAR	APL	MEI	JUN	JUL	AUG	SEP	OKT	NOV	DES
1	2013	410	467	497	357	455	500	456	700	687	690	400	423
2	2014	344	297	500	421	400	322	500	657	400	600	366	341
3	2015	501	342	421	445	600	525	750	429	490	598	290	279
4	2016	307	436	470	561	647	580	789	427	571	611	404	372
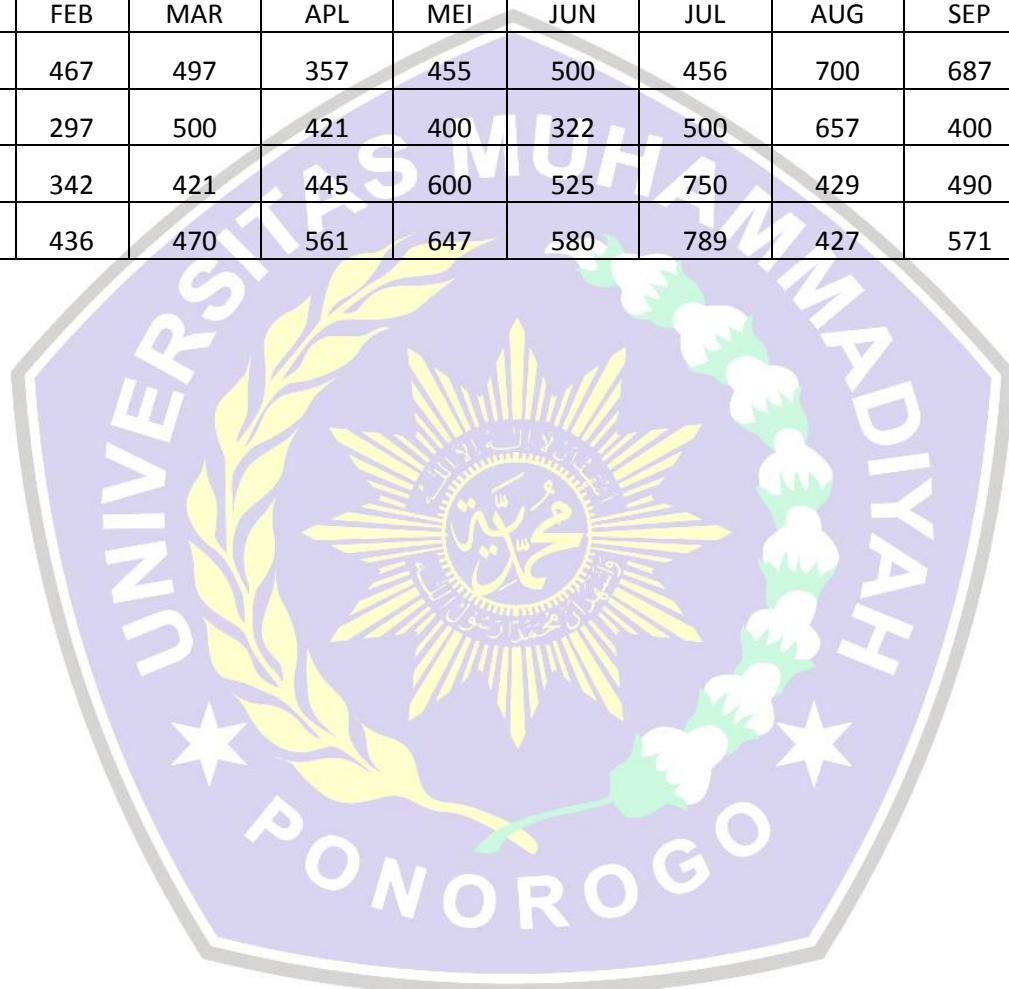
STRUKTUR ORGANISASI INDUSTRI JENANG MIRAH

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                        │   Direktur   │
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                    │  Wakil Direktur  │
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│ Manager Keuangan  │ │ Manager Produksi│ │ Manager Pemasaran  │
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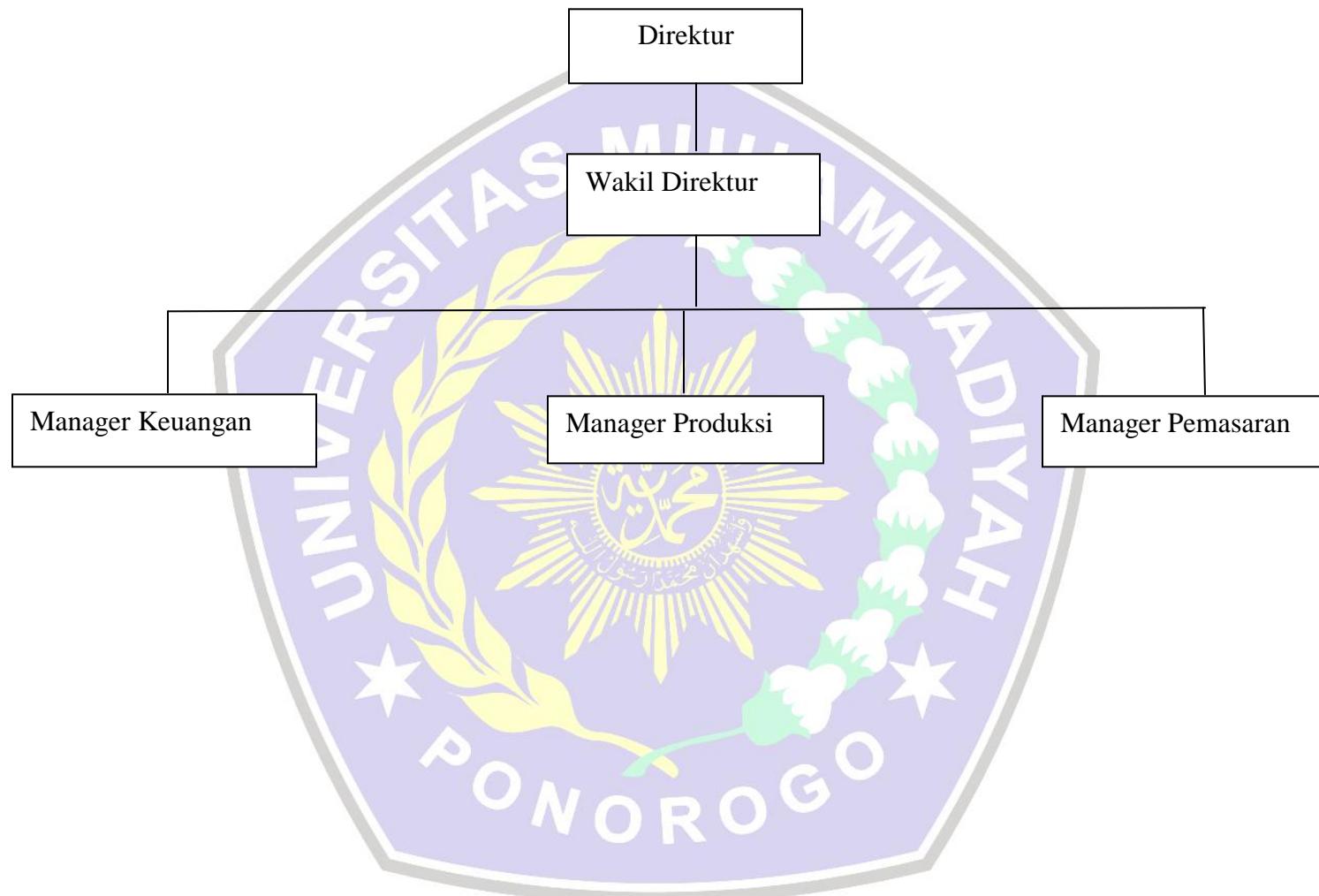
Source code pengujian dan pelatihan

```matlab
% clc;clear;close all;warning off;

% Proses membaca data latih dari excel
filename = 'Jenang.xlsx'
sheet = 2
xlRange = 'E5:Q28'

% data input dan target
Data = xlsread(filename, sheet, xlRange)
data_latih = Data(:,1:12)'
target_latih = Data(:,13)'
[m,n] = size(data_latih)

% Membangun Jaringan Syaraf Tiruan
net = newff(minmax(data_latih),[12
1],{'logsig','purelin'},'traingdx')

%melihat bobot-bobot awal input, lapisan, dan bias
BobotAwal_Input        = net.IW{1,1}
BobotAwal_Bias_Input   = net.b{1,1}
BobotAwal_Lapisan      = net.LW{2,1}
BobotAwal_Bias_Lapisan = net.b{2,1}

%set max epoh, goal,learning rate, momentum, show step
net.trainParam.epoch = 50
net.trainParam.goal  = 1e-3
net.trainParam.Ir    = 0.1
net.trainParam.mc    = 0.3
net.trainParam.show  = 10

% Memberikan nilai untuk mempengaruhi proses pelatihan
net.performFcn = 'mse'
net.trainParam.goal = 0.001
net.trainParam.show = 20
net.trainParam.epochs = 1000
net.trainParam.mc = 0.95
net.trainParam.lr = 0.1

% Proses training
[net_keluaran,tr,Y,E] = train(net,data_latih,target_latih)

% Hasil setelah pelatihan
bobot_hidden = net_keluaran.IW{1,1}
bobot_keluaran = net_keluaran.LW{2,1}
bias_hidden = net_keluaran.b{1,1}
bias_keluaran = net_keluaran.b{2,1}
jumlah_iterasi = tr.num_epochs
nilai_keluaran = Y
nilai_error = E
error_MSE = (1/n)*sum(nilai_error.^2)

save net.mat net_keluaran
```

```matlab
% Hasil prediksi
hasil_latih = sim(net_keluaran,data_latih)
max_data = 789
min_data = 279
hasil_latih = ((hasil_latih-0.1)*(max_data-min_data)/0.8)+min_data

% Performansi hasil prediksi
filename = 'Jenang.xlsx'
sheet = 1
xlRange = 'B23:Y23'

target_latih_asli = xlsread(filename, sheet, xlRange)

figure,
plotregression(target_latih_asli,hasil_latih,'Regression')

figure,
plotperform(tr)

figure,
plot(hasil_latih,'bo-')
hold on
plot(target_latih_asli,'ro-')
hold off
grid on
title(strcat(['Grafik Keluaran JST vs Target dengan nilai MSE = ',...
    num2str(error_MSE)]))
xlabel('Pola ke-')
ylabel('Penjualan Jenang')
legend('Keluaran JST','Target','Location','Best')
```

```matlab
clc;clear;close all;

% load jaringan yang sudah dibuat pada proses pelatihan
load net.mat

% Proses membaca data uji dari excel
filename = 'Jenang.xlsx'
sheet = 2
xlRange = 'E32:Q43'

Data = xlsread(filename, sheet, xlRange)
data_uji = Data(:,1:12)'
target_uji = Data(:,13)'
[m,n] = size(data_uji)

% Hasil prediksi
hasil_uji = sim(net_keluaran,data_uji)
nilai_error = hasil_uji-target_uji

max_data = 789
min_data = 279
hasil_uji = ((hasil_uji-0.1)*(max_data-min_data)/0.8)+min_data

% Performansi hasil prediksi
error_MSE = (1/n)*sum(nilai_error.^2)

filename = 'Jenang.xlsx'
sheet = 1
xlRange = 'B24:M24'

target_uji_asli = xlsread(filename, sheet, xlRange)

figure,
plotregression(target_uji_asli,hasil_uji,'Regression')

figure,
plot(hasil_uji,'bo-')
hold on
plot(target_uji_asli,'ro-')
hold off
grid on
title(strcat(['Grafik Keluaran JST vs Target dengan nilai MSE = 
',...
    num2str(error_MSE)]))
xlabel('Pola ke -')
ylabel('Penjualan Jenang')
legend('Keluaran JST','Target','Location','Best')
```