Membuat NN di MATLAB

```
>> nftool
>> load simplefit_dataset
>> whos
  Name                  Size             Bytes  Class     Attributes

  simplefitInputs       1x94               752  double
  simplefitTargets      1x94               752  double
>> P=simplefitInputs;
>> T=simplefitTargets;
>> net=newff(P,T,5);
>> net=train(net,P,T);
>> Y=sim(net,P);
>> error=sum(abs(T-Y));
```

Bagaimana proses sim ?

```
>> P(33)
ans =
    3.5929
>> T(33)
ans =
    7.2770
>> Y(33)
ans =
    7.2756
>> imp2 = mapminmax('apply',P(33),net.inputs{1}.processSettings{3});
>> OutLayer1 = tansig(net.IW{1}*imp2+net.b{1});
>> OutLayer2 = purelin(net.LW{2}*OutLayer1+net.b{2});
>> y2 = mapminmax('reverse',OutLayer2,net.outputs{2}.processSettings{2});
>> y2
y2 =
    7.2756
```

Parameter-parameter yang perlu disiapkan

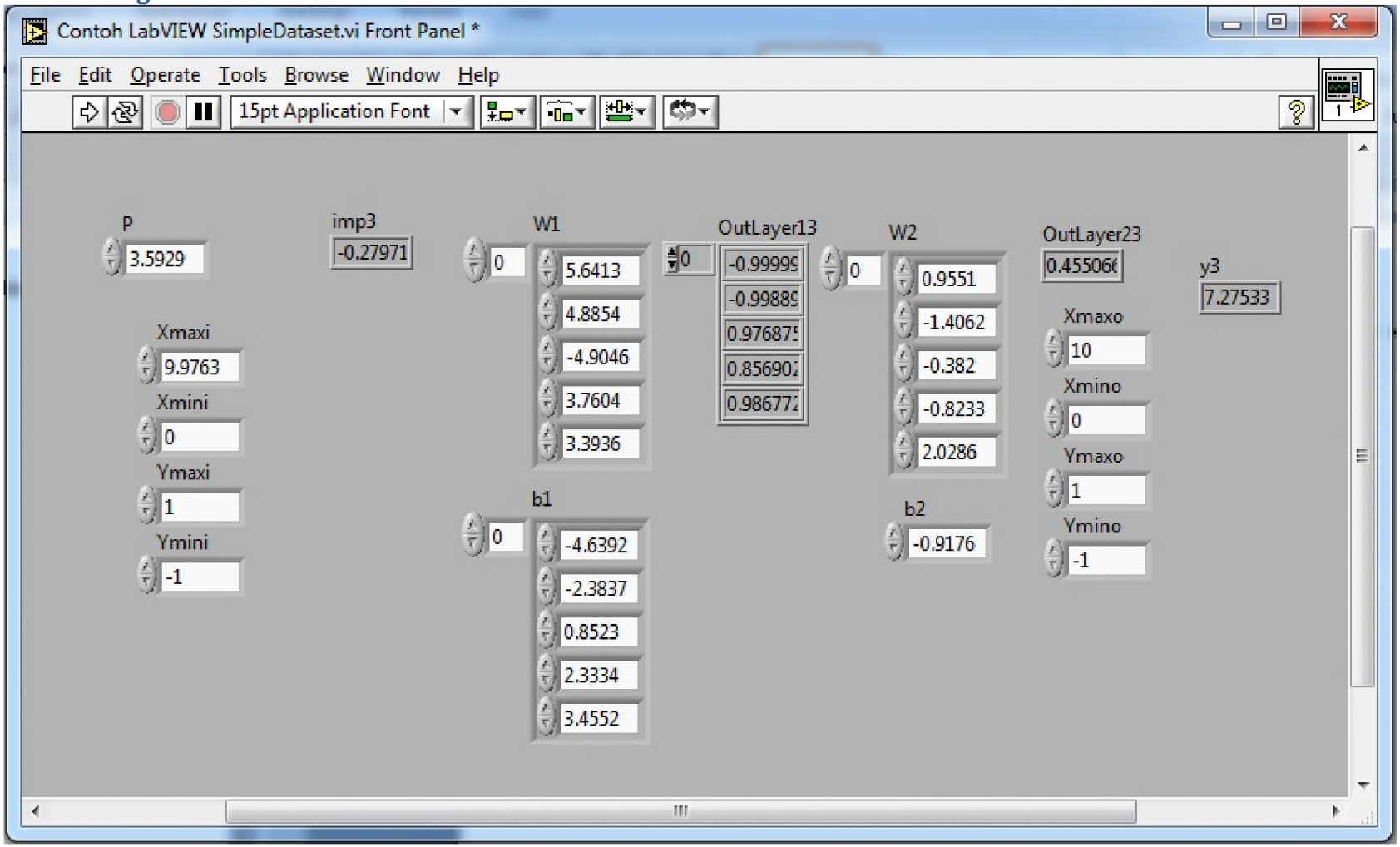
```
>> xmaxi=net.inputs{1}.processSettings{3}.xmax
xmaxi =
    9.9763
>> xmini=net.inputs{1}.processSettings{3}.xmin
xmini =
```

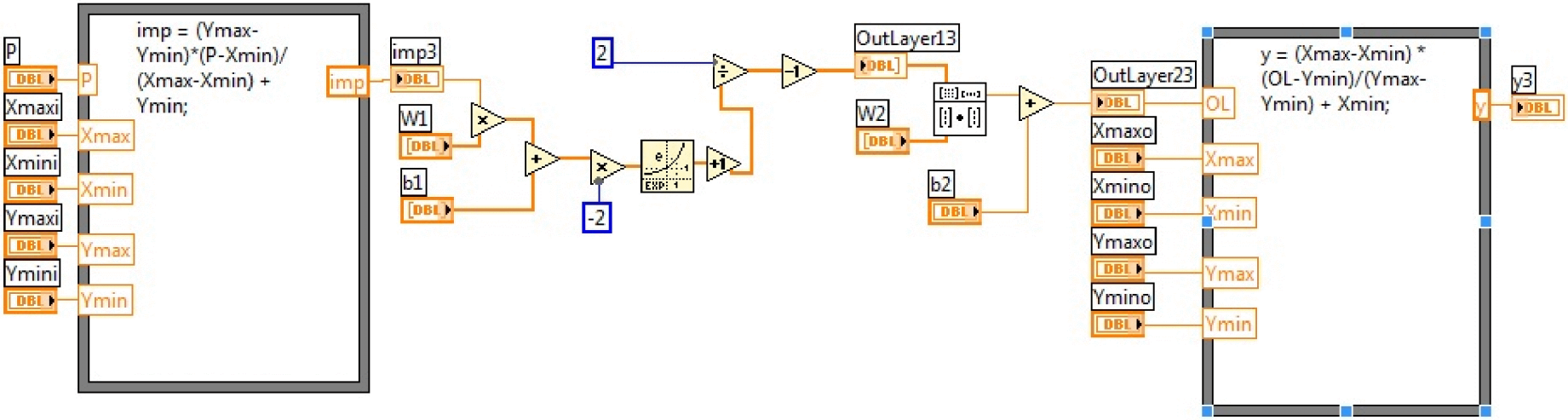
```
     0
>> ymaxi=net.inputs{1}.processSettings{3}.ymax
ymaxi =
     1
>> ymini=net.inputs{1}.processSettings{3}.ymin
ymini =
    -1
>> W1=net.IW{1}
W1 =
    5.6413
    4.8854
   -4.9046
    3.7604
    3.3936
>> b1=net.b{1}
b1 =
   -4.6392
   -2.3837
    0.8523
    2.3334
    3.4552
>> W2=net.LW{2}
W2 =
    0.9551   -1.4062   -0.3820   -0.8233    2.0286
>> b2=net.b{2}
b2 =
   -0.9176
>> xmaxo=net.outputs{2}.processSettings{2}.xmax
xmaxo =
    10
>> xmino=net.outputs{2}.processSettings{2}.xmin
xmino =
     0
>> ymaxo=net.outputs{2}.processSettings{2}.ymax
ymaxo =
     1
>> ymino=net.outputs{2}.processSettings{2}.ymin
ymino =
    -1
```

Proses Matlab secara detail

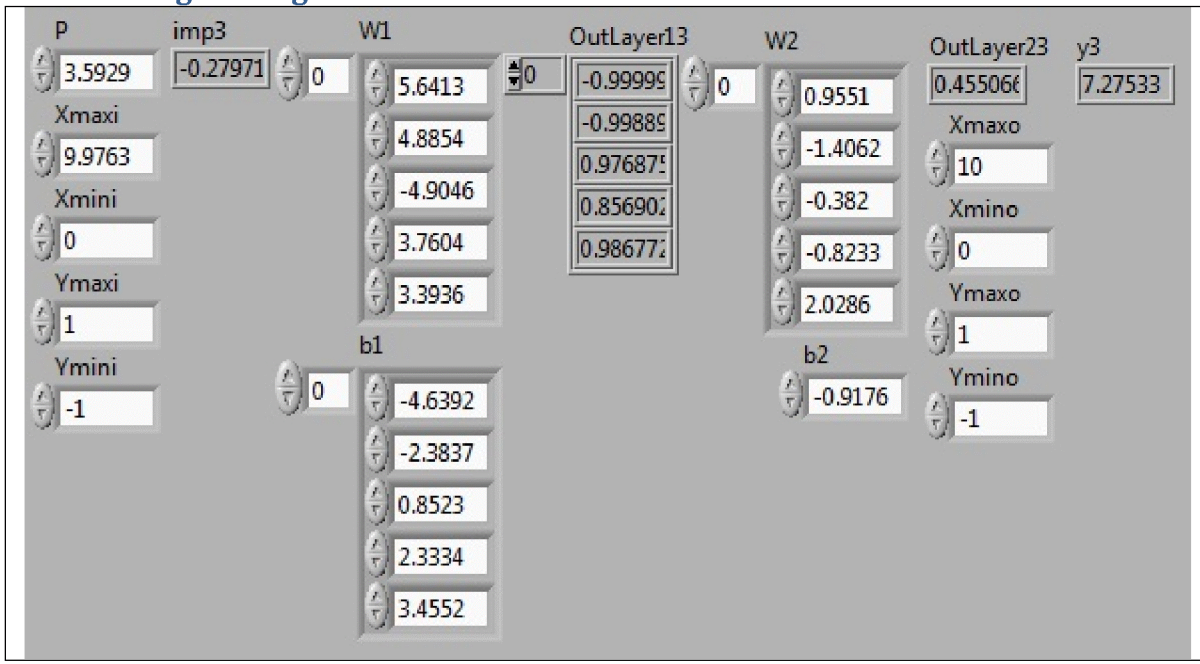
```
>> imp3 = (ymaxi-ymini)*(P(33)-xmini)/(xmaxi-xmini) + ymini
imp3 =
   -0.2797
>> imp2
imp2 =
   -0.2797
>> n=W1*imp3+b1
n =
   -6.2171
   -3.7502
    2.2242
    1.2816
    2.5060
>> OutLayer13=2./(1+exp(-2*n))-1
OutLayer13 =
   -1.0000
   -0.9989
    0.9769
    0.8569
    0.9868
>> OutLayer23=W2*OutLayer13+b2
OutLayer23 =
    0.4551
>> OutLayer2
OutLayer2 =
    0.4551
>> y3 = (xmaxo-xmino) * (OutLayer2-ymino)/(ymaxo-ymino) + xmino
y3 =
    7.2756
```

Contoh Program di labVIEW




P
Xmaxi
Xmini
Ymaxi
Ymini
imp = (Ymax-Ymin)*(P-Xmin)/(Xmax-Xmin) + Ymin;
imp3
W1
b1
2
-2
OutLayer13
W2
b2
OutLayer23
Xmaxo
Xmino
Ymaxo
Ymino
y = (Xmax-Xmin) * (OL-Ymin)/(Ymax-Ymin) + Xmin;
y3

Perbandingan dengan hasil MATLAB




```
>> imp3
imp3 =
   -0.2797
>> OutLayer13
OutLayer13 =
   -1.0000
   -0.9989
    0.9769
    0.8569
    0.9868
>> OutLayer23
OutLayer23 =
    0.4551
>> y3
y3 =
    7.2756
```