

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
>> xmin=net.inputs{1}.processSettings{3}.xmin
xmin =
```

```
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

Contoh LabVIEW SimpleDataset.vi Front Panel *

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15pt Application Font

P: 3.5929

imp3: -0.27971

W1: 0, 5.6413, 4.8854, -4.9046, 3.7604, 3.3936

OutLayer13: 0, -0.99999, -0.99889, 0.97687, 0.85690, 0.98677

W2: 0, 0.9551, -1.4062, -0.382, -0.8233, 2.0286

OutLayer23: 0.45506

y3: 7.27533

Xmaxi: 9.9763

Xmini: 0

Ymaxi: 1

Ymini: -1

b1: 0, -4.6392, -2.3837, 0.8523, 2.3334, 3.4552

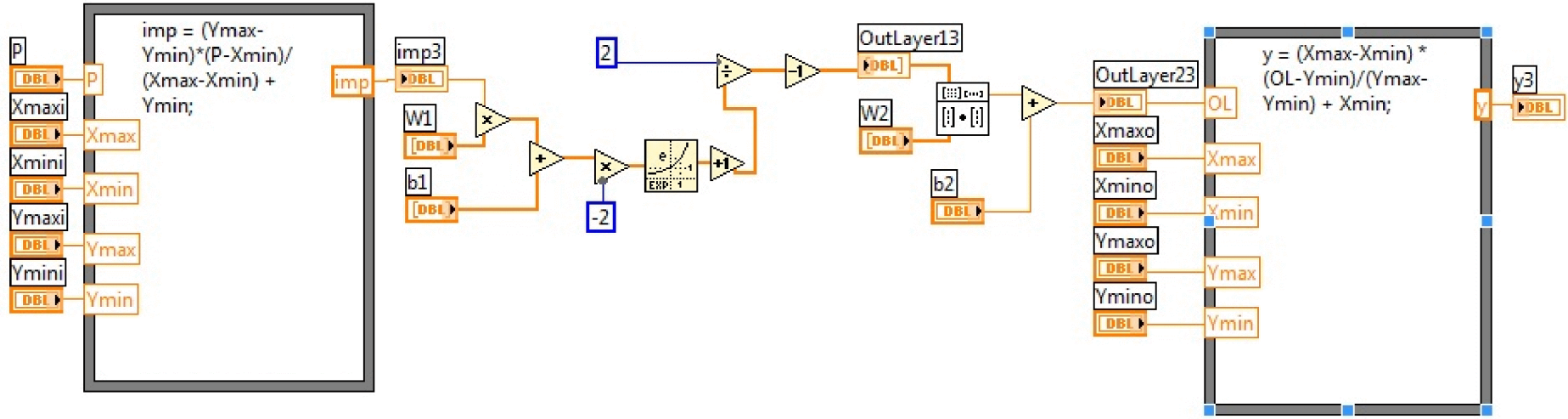
b2: -0.9176

Xmaxo: 10

Xmino: 0

Ymaxo: 1

Ymino: -1



Perbandingan dengan hasil MATLAB

P	imp3	W1	OutLayer13	W2	OutLayer23	y3
3.5929	-0.27971	0	0	0	0	7.27533
Xmaxi		5.6413		0.9551	0.45506	
9.9763		4.8854	-0.99999	-1.4062	Xmaxo	
Xmini		-4.9046	-0.99889	-0.382	10	
0		3.7604	0.97687	-0.8233	Xmino	
Ymaxi		3.3936	0.85690	2.0286	0	
1			0.98677		Ymaxo	
Ymini					1	
					Ymino	
					-1	
		b1		b2		
		0		-0.9176		
		-4.6392				
		-2.3837				
		0.8523				
		2.3334				
		3.4552				

```

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

```