

1. a) b) c4)

% enee434 hw#1 problem1 c5), Spring 2006%

```
P1=[-5:0.1:5];
```

```
for i=1:101;
```

```
    T1(i)=P1(i)^5-3.2*P1(i)^3+5*P1(i)+10;
```

```
end
```

```
%set up the neural network%
```

```
netc5 = newff([-20 20],[5 5 5 5 1],{'tansig' 'tansig' 'tansig' 'tansig' 'purelin'});
```

```
Y = sim(netc5,P1);
```

```
%network after 20 inputs training.%
```

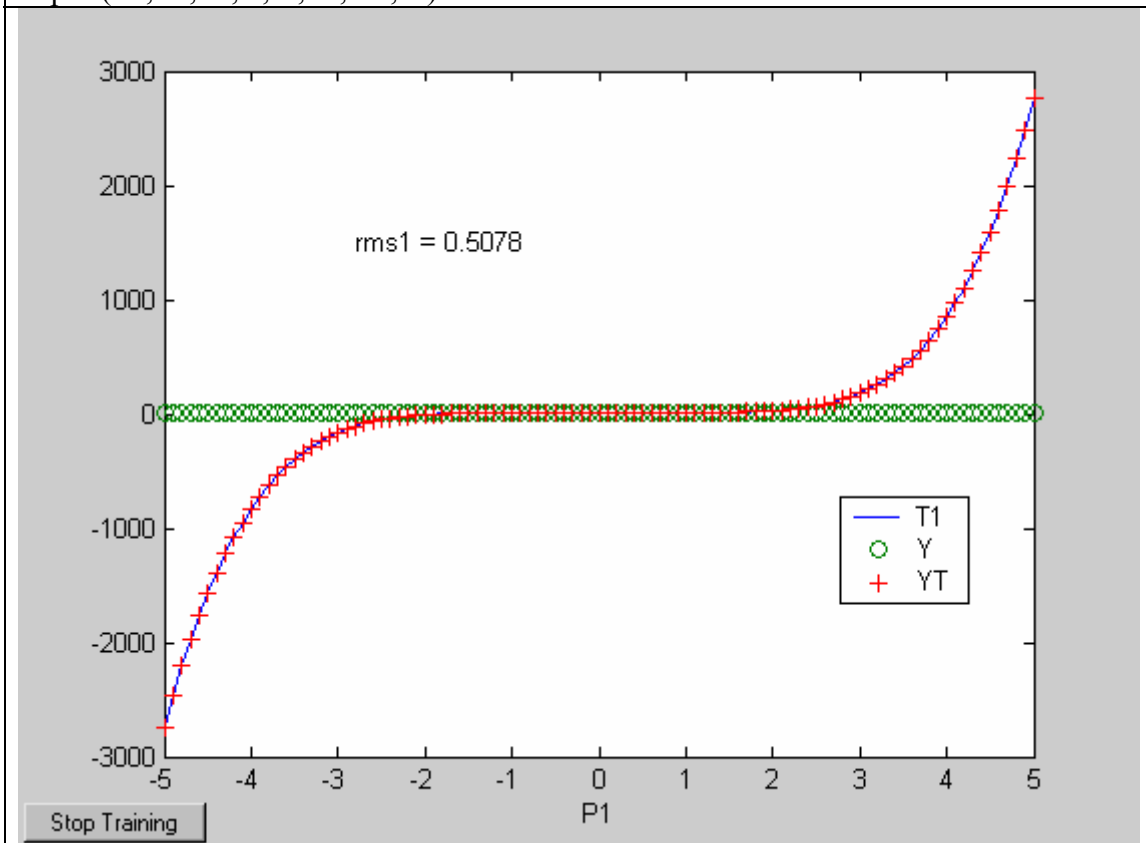
```
netc5.trainParam.epochs = 500;
```

```
netc5 = train(netc5,P1,T1);
```

```
YT=sim(netc5,P1);
```

```
rms1=sqrt(mse(YT-T1))
```

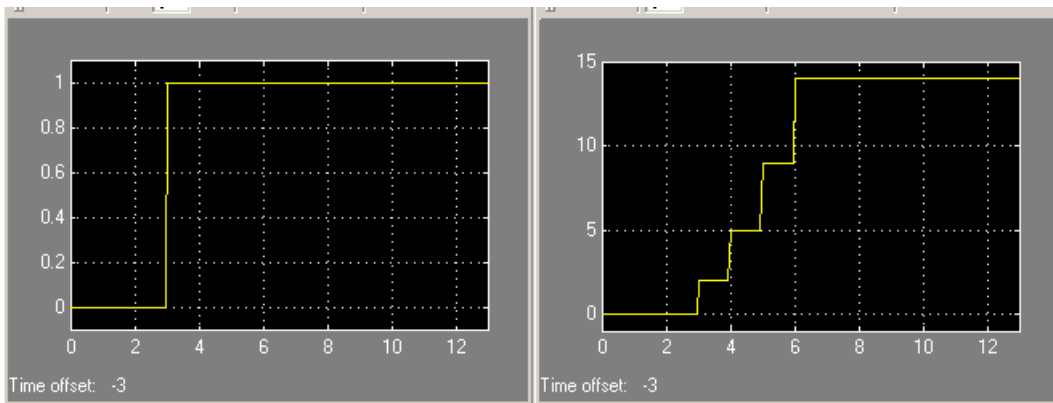
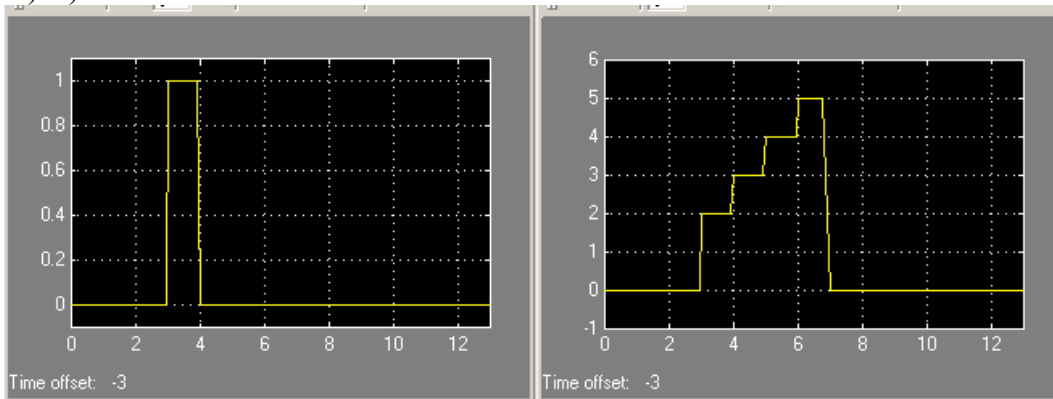
```
plot(P1,T1,P1,Y,'o',P1,YT,'+')
```



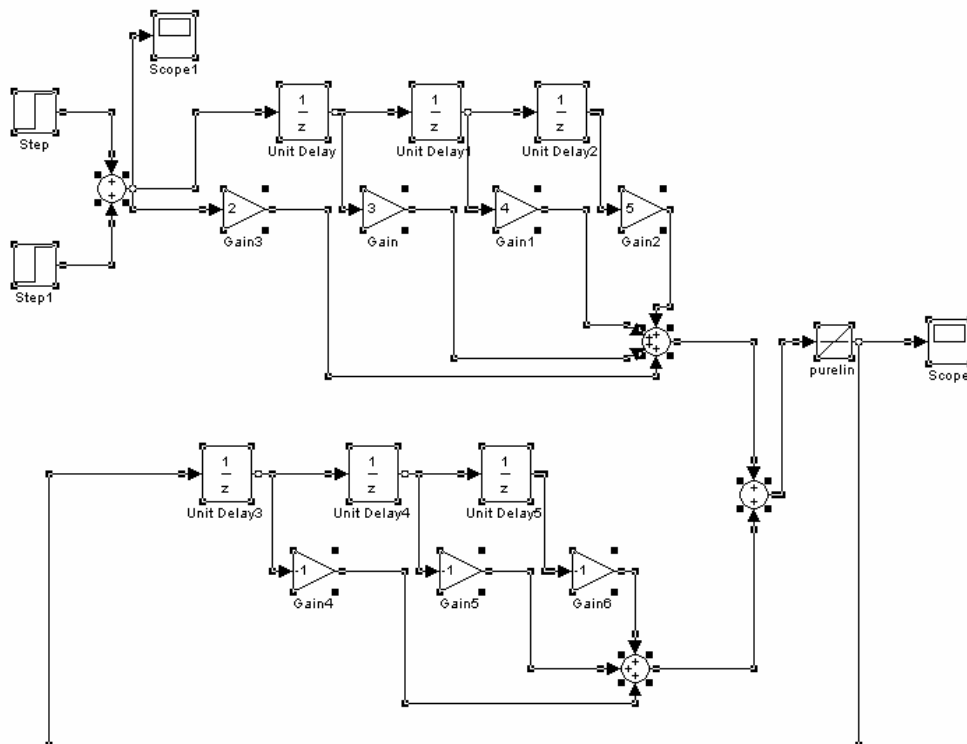
2. a).

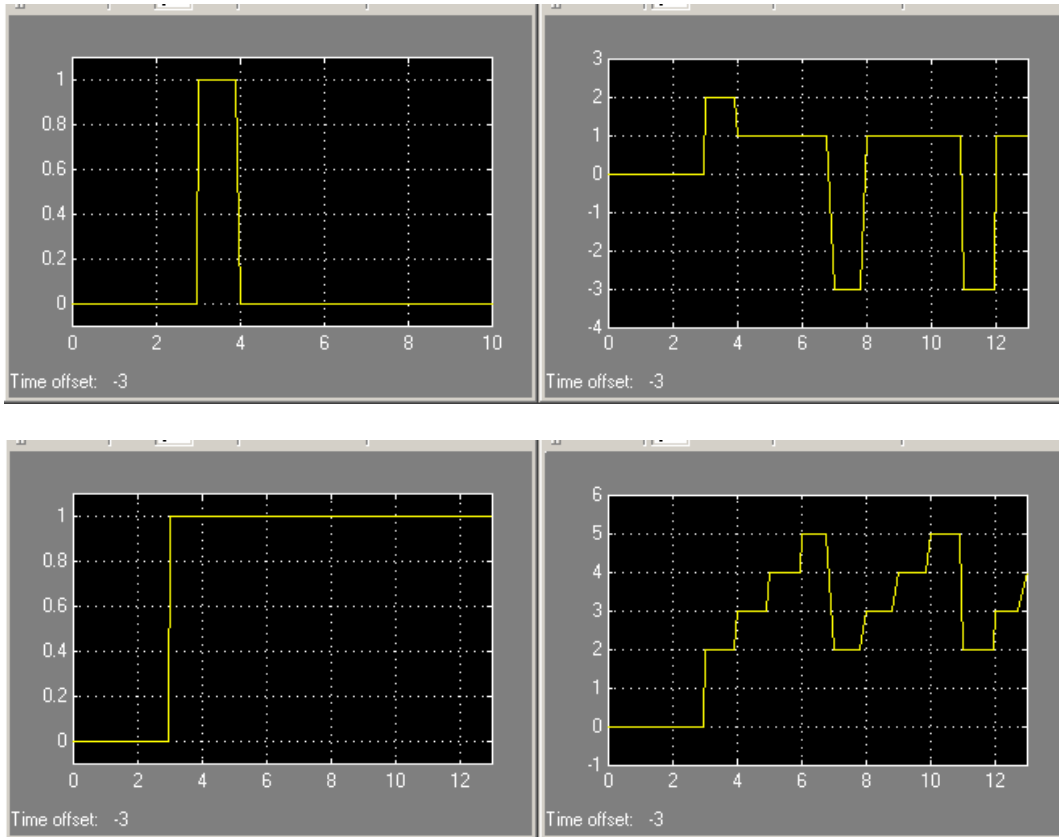
type 'simulink', Simulink Library Browser window pops up. Unit delay can be located in Simulink\Discrete, and purelin in Neural Network Blockset\Transfer Functions, etc..

b). c).



d)





Comment:

If simulink not used, you can also write your own matlab code. If you are interested, you can check hw4 problem 1 solution of enee434, spring 2005.