perceptron

Perceptron

Syntax

```
perceptron(hardlimitTF,perceptronLF)
```

Synopsis

Description

Perceptrons are simple single-layer binary classifiers, w hich divide the input space w ith a linear decision boundary.

Perceptrons are provide for historical interest. For much better results use `patternnet`, w hich can solve non-linearly separable problems. Sometimes w hen people refer to perceptrons they are referring to feed-forw ard pattern recognition netw orks, such as `patternnet`. But the original perceptron, described here, can solve only very simple problems.

Perceptrons can learn to solve a narrow class of classification problems. Their significance is they have a simple learning rule and w ere one of the first neural netw orks to reliably solve a given class of problems.

`perceptron(hardlimitTF,perceptronLF)` takes these arguments,

`hardlimitTF`	Hard limit transfer function (default = `'hardlim'`)
`perceptronLF`	Perceptron learning rule (default = `'learnp'`)

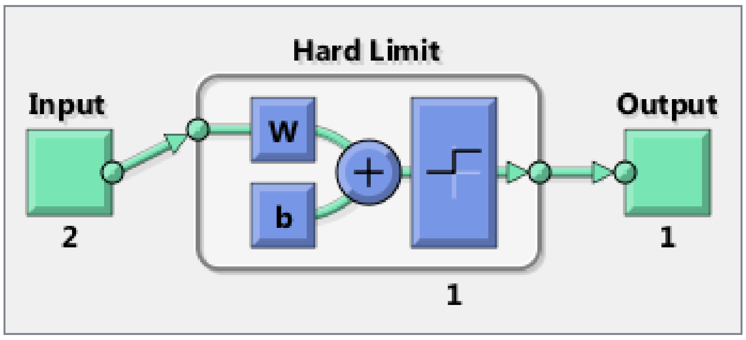
and returns a perceptron.

In addition to the default hard limit transfer functions, perceptrons can be created w ith the `hardlims` transfer function. The other option for the perceptron learning rule is `learnpn`.

Examples

Here a perceptron is used to solve a very simple classification logical-OR problem.

```
x = [0 0 1 1; 0 1 0 1];
t = [0 1 1 1];
net = perceptron;
net = train(net,x,t);
view(net)
y = net(x);
```



See Also

`narnet` | `narxnet` | `preparets` | `removedelay` | `timedelaynet`