Hetro associative neural net

Training file for hetro associative neural net :

```
function [ nn] = hetro_net( x,t )
nn.t=t;
n=size(x,1);
m=size(t,2);
nn.w=zeros(n,m);%w=(4,2);
for i=1:n
    nn.w=nn.w+x(i,1:n)'*t(i,1:m);
end
disp('weight matrix');
disp(nn.w);

end
```

testing hetro associative neural net :

```
function net = test( x,net )
y=zeros(1,2);
yin=x*net.w;
for i=1:2
    if(yin(i)>0)
        y(i)=1;
    else
        y(i)=-1;
    end
end

    disp(y);

end
```

command window:

(bipolar input and output)

```
>> out=hetro_net([1 1 -1 -1;1 -1 1 -1;1 1 1 -1;-1 1 1 -1],[1 -1;1 -1;-1 1;-1 1]);
```

weight matrix

2	-2
-2	2
-2	2
0	0

(testing first pattern)

```
>>test([1 1 -1 -1],out)

    1    -1

ans =

    t: [4x2 double]

    w: [4x2 double]
```

(testing second pattern)

```
>> test([1 -1 1 -1],out)

    1    -1

ans =

    t: [4x2 double]

    w: [4x2 double]
```

(testing third pattern)

```
>> test([1 1 1 -1],out)

   -1     1

ans =

    t: [4x2 double]

    w: [4x2 double]
```

(testing fourth pattern)

```
>> test([-1 1 1 -1],out)

   -1     1

ans =

    t: [4x2 double]

    w: [4x2 double]
```