In [4]:
```
import numpy as np
import math
import matplotlib.pyplot as plt
%matplotlib inline
```

In [5]:
```
print ("Layer 1")
X1 = np.array ([1, 2.00, 0.26])

# Layer 2
print ("Layer2")
print ("X1 =", X1)
W12 = np.array ([[-0.18, -0.16, -0.03, -0.15],
                 [0.166, -0.18, 0.01, -0.06],
                 [0.14, -0.14, -0.065, -0.06]])
W12
print ("W12 =")
print (W12)
Y2 = X1.dot(W12)
print ("Y2 =", Y2)
A2 =1/(1+np.exp(-Y2))
print ("A2 =", A2)
```

```
Layer 1
Layer2
('X1 =', array([ 1.  ,  2.  ,  0.26]))
W12 =
[[-0.18  -0.16  -0.03  -0.15 ]
 [ 0.166 -0.18   0.01  -0.06 ]
 [ 0.14  -0.14  -0.065 -0.06 ]]
('Y2 =', array([ 0.1884, -0.5564, -0.0269, -0.2856]))
('A2 =', array([ 0.54696118,  0.36438084,  0.49327541,  0.4290814 ]))
```

In [6]:
```
# Layer 3
print ("Layer3")

print ("A2 =", A2)
W23 = np.array ([-1.01, -1.99, -0.25, -1.64])
print ("W23 =")
print (W23)
Y3 = A2.dot(W23)
print ("Y3 =", Y3)
h =1/(1+np.exp(-Y3))
print ("h(x) =", h)
error = 1-h
print ("e = ", error)
```

```
Layer3
('A2 =', array([ 0.54696118,  0.36438084,  0.49327541,  0.4290814 ]))
W23 =
[-1.01 -1.99 -0.25 -1.64]
('Y3 =', -2.1045610040177558)
('h(x) =', 0.10865430548974733)
('e = ', 0.8913456945102527)
```