Recurrent Neural Networks

```
In [1]:  from mxnet import nd

         # Data X and hidden state H
         X = nd.random.normal(shape=(3, 1))
         H = nd.random.normal(shape=(3, 2))

         # Weights
         W_xh = nd.random.normal(shape=(1, 2))
         W_hh = nd.random.normal(shape=(2, 2))
         W_hq = nd.random.normal(shape=(2, 3))

         def net(X, H):
             H = nd.relu(nd.dot(X, W_xh) + nd.dot(H, W_hh))
             O = nd.relu(nd.dot(H, W_hq))
             return H, O
```

One step update

In [2]:
```
(H, O) = net(X,H)
print(H, O)
```

```
[[3.1894968  0.9141049 ]
 [0.51471996 0.         ]
 [2.0218253  2.1844263 ]]
<NDArray 3x2 @cpu(0)>
[[2.2920508  1.2606765  0.          ]
 [0.21111983 0.29404315 0.          ]
 [3.1803353  0.         0.          ]]
<NDArray 3x3 @cpu(0)>
```