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MTH540/440 - EAS621/622 - DSC550 Discussion Session

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Topic: Simple Vector Training Numerical Experiment.

See the discussion video in mycourses.

```
In[740]:= ClearAll["Global`*"]  
input = {{0, 0, 1}, {1, 1, 1}, {1, 0, 1}, {0, 1, 1}}  
output = {0, 1, 1, 0}  
asso = Thread[input → output]
```

```
Out[741]= {{0, 0, 1}, {1, 1, 1}, {1, 0, 1}, {0, 1, 1}}
```

```
Out[742]= {0, 1, 1, 0}
```

```
Out[743]= {{0, 0, 1} → 0, {1, 1, 1} → 1, {1, 0, 1} → 1, {0, 1, 1} → 0}
```

```
In[744]:= net = NetChain[{LinearLayer[], ElementwiseLayer["Sigmoid"]}]  
trained = NetTrain[net, asso]  
r = trained[{1, 0, 0}]
```

```
Out[744]= NetChain[  
  uninitialized 1 Input array  
  LinearLayer array  
  2 LogisticSigmoid array  
  Output array  
]
```

```
Out[745]= NetChain[  
  1 Input vector (size: 3)  
  LinearLayer real  
  2 LogisticSigmoid real  
  Output real  
]
```

```
Out[746]= 0.996262
```