HAND WRITTEN DIGIT PREDICTION PROJECT

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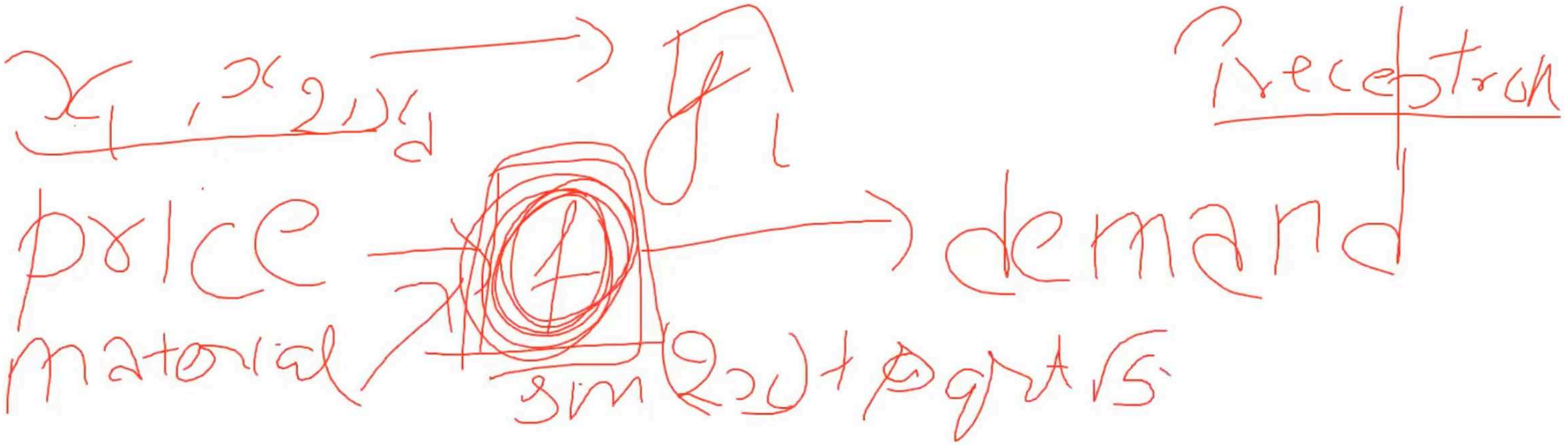
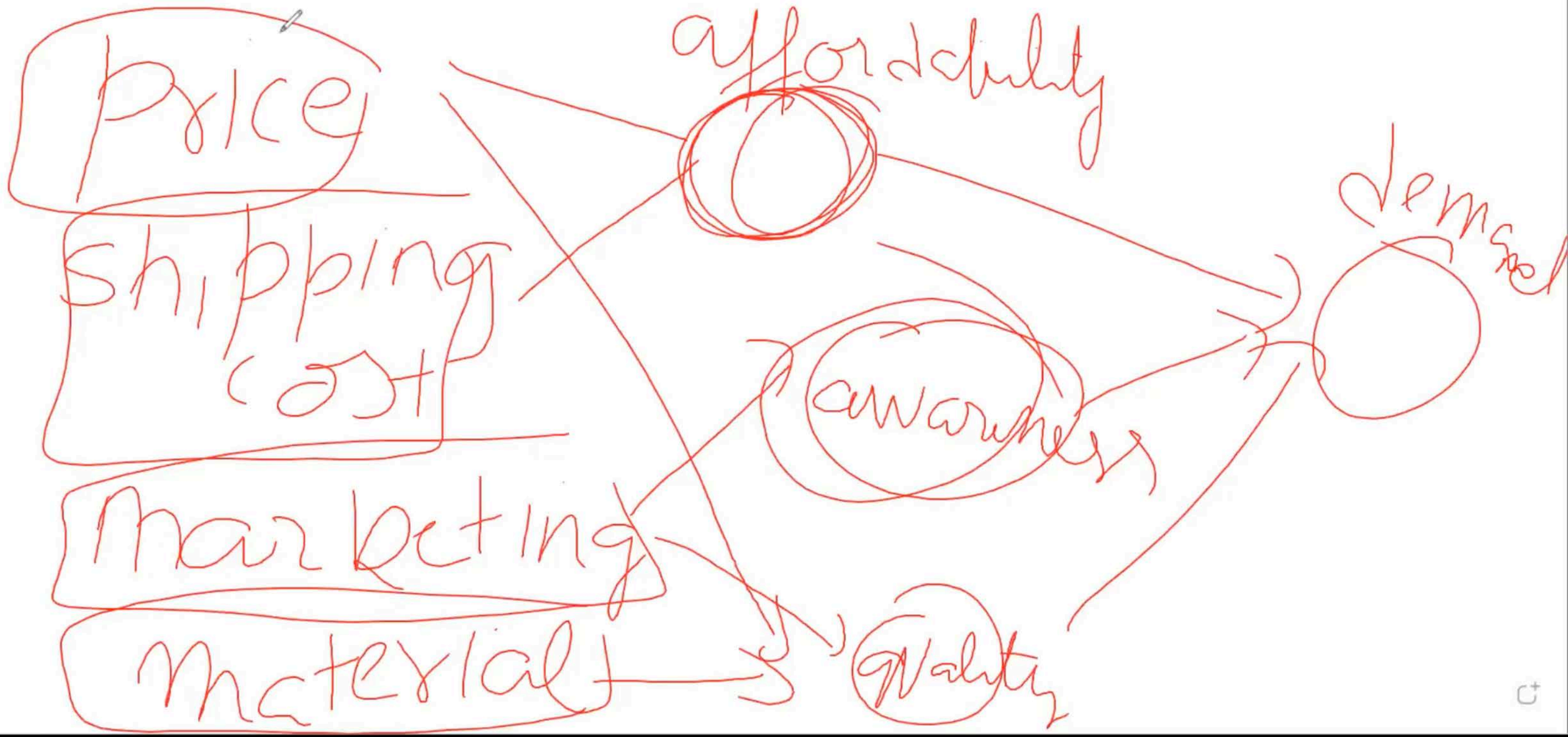
1 3 2 4

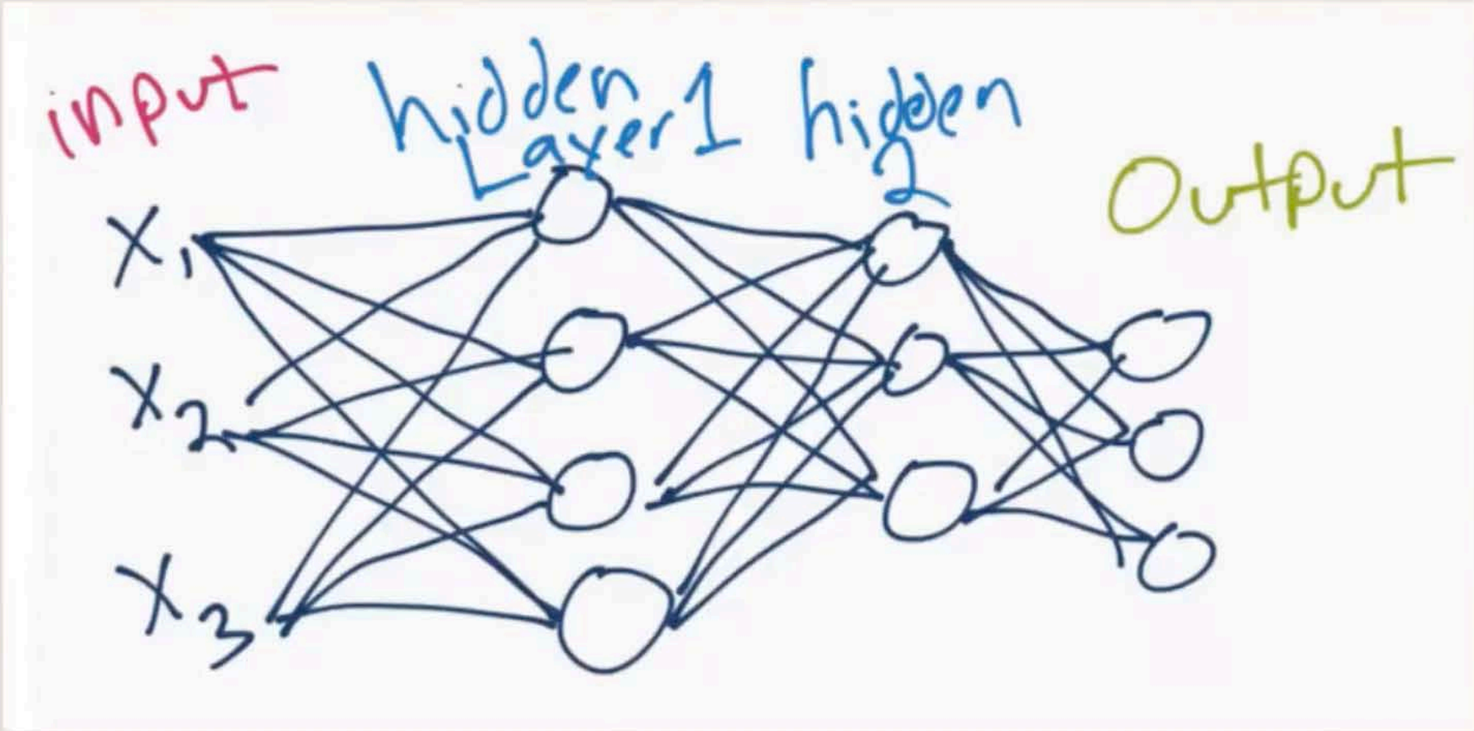
TENSORFLOW

- TensorFlow is a free and open-source software library for machine learning.
- It particular focus on training and inference of deep neural networks.
- Tensorflow is a symbolic math library based on dataflow and differentiable programming.


x1, x2, ...
price
material
demand
Reception


price
shipping cost
marketing
material
affordability
awareness
quality
demand

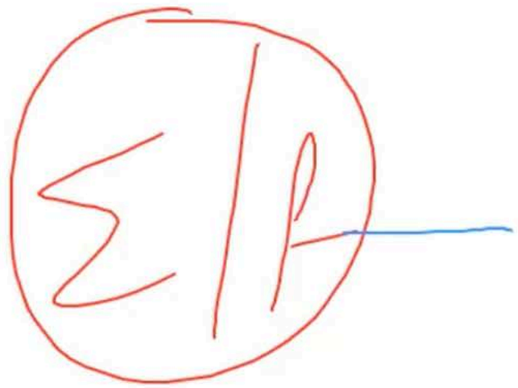
NEURAL NETWORK



$f(x) = \begin{cases} 1, & \text{with } p > 2 \\ 0, & \text{otherwise} \end{cases}$

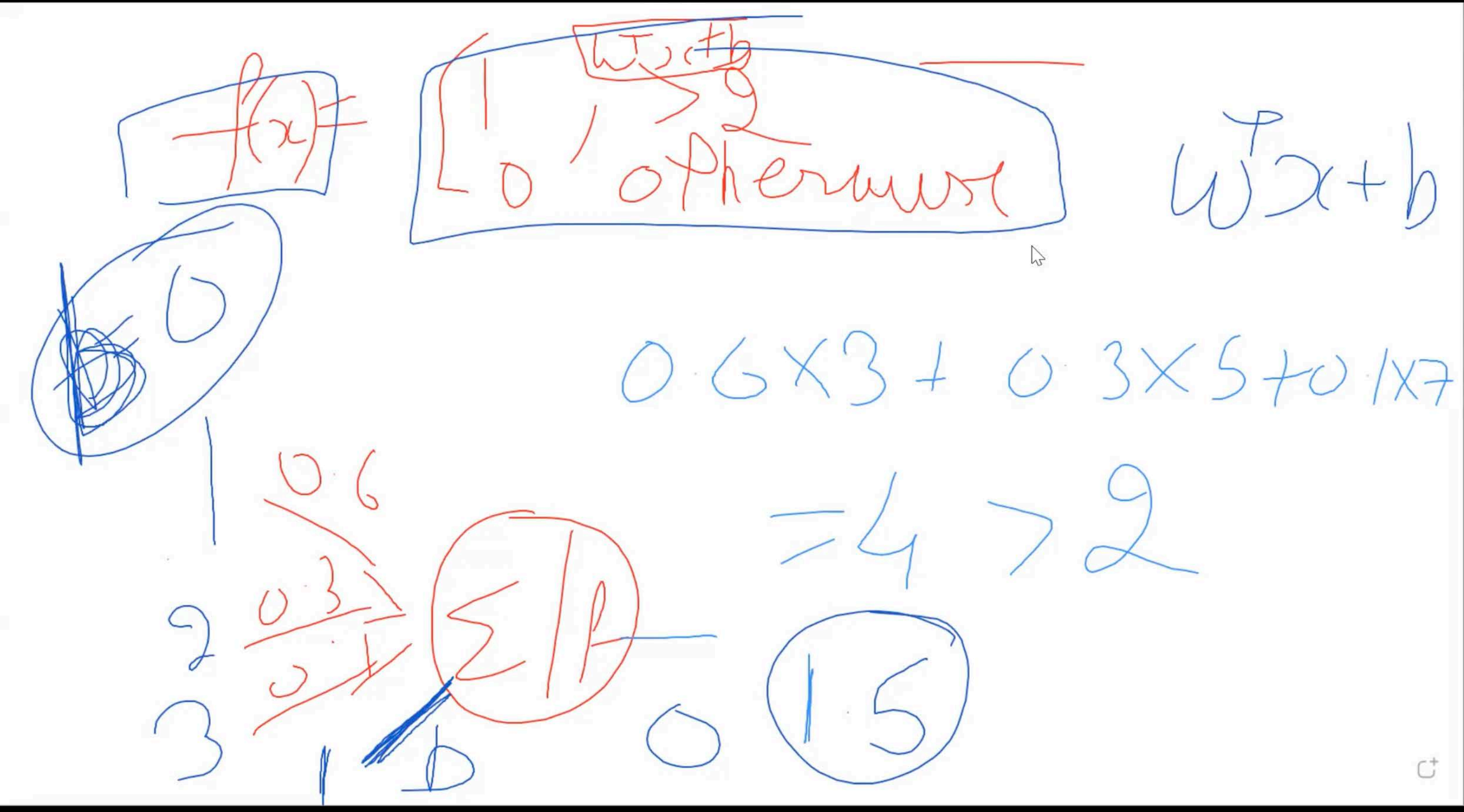
$0.6 \times 3 + 0.3 \times 5 + 0.1 \times 7$

3 0.6
5 0.3
7 0.1

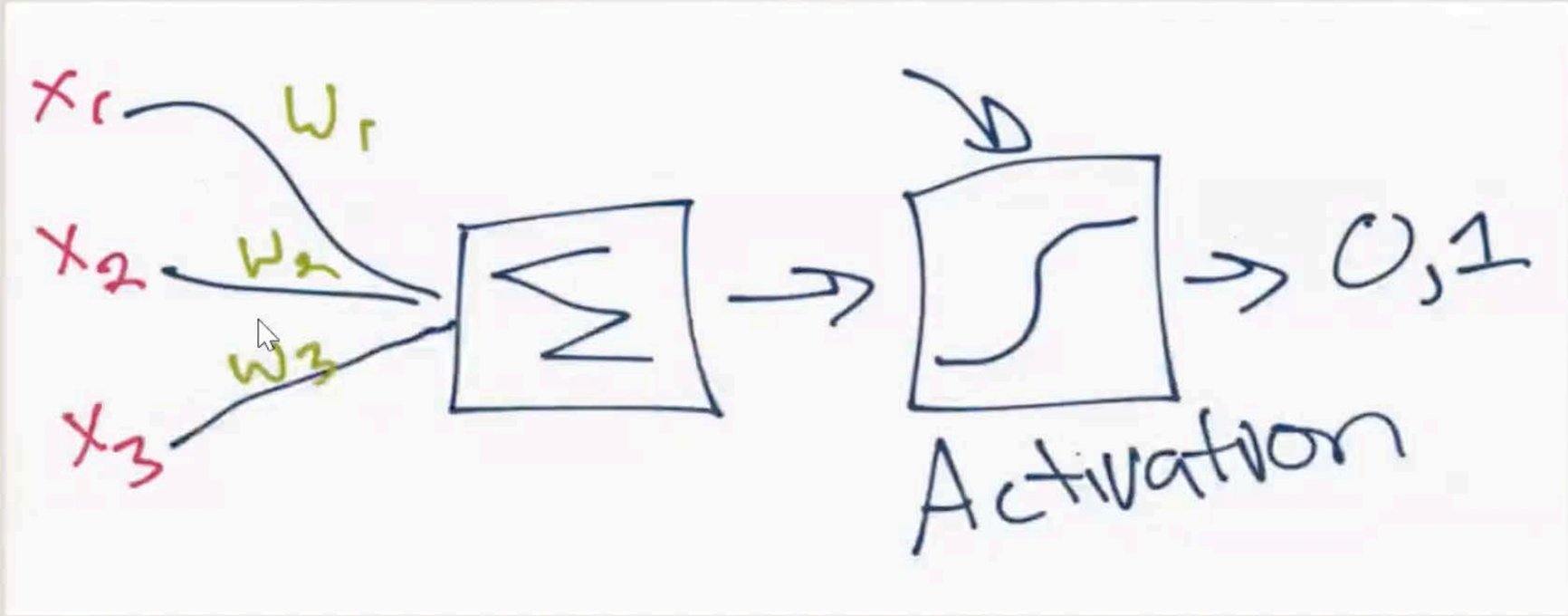


$= 4 > 2$

1


f(x)=
wTx+b
1
1
2
0
otherwise
wTx+b
0
0.6x3+0.3x5+0.1x7
=4>2
1
0.6
2
0.3
3
0.1
EP
0
1.5

SINGLE NEURON




Scalar
Vector
Matrix
Tensor
1
1
2
1 2
3 4
1 2
3 2
1 7
5 4

MNIST DATASET

- It's a dataset of hand-written digits, 0 through 9.
- It's 28x28 images of these hand-written digits.

STEPS

- 1. Importing the Libraries
- 2. Importing the dataset
- 3. Splitting the dataset into Training set and Test set
- 4. Training model on the training set
- 5. Predicting the Test set results
- 6. Visualizing the Test set result