Plan:

1. Non-linear hypothesis. Trying to understand the reason for the non-linear hypothesis.
   a. Motivations
   b. Brain-like approach
2. Neural networks. Creating models based on ideas artificial neural networks
   a. Model representation
   b. Vectorized implementation
3. Applications.
   a. Examples
   b. Multiclass classification. One-vs-all.

Questions:

1. Why we need yet another hypothesis function such as neural networks?
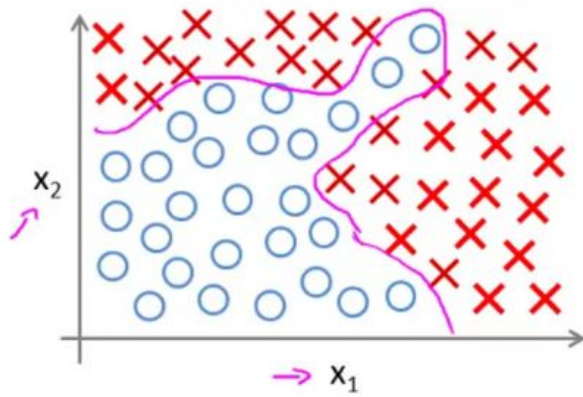2. Which type of layers in of NN do you know and what's the difference between them?

Glossary:

Unit - neural network node that represents one neuron in the layer
Layer - a group of separated units

Picture 1

Non-linear Classification

$x_1 = $ size
$x_2 = $ # bedrooms
$x_3 = $ # floors
$x_4 = $ age
. . .
x_{100}

Picture 2

Dendrite "input wires"

Axon terminal

Cell body

Node of Ranvier

Axon

Schwann cell

Myelin sheath

Nucleus

"output wire"