Deep learning - Neural Networks.

Simplest neural network:

eg. Housing Price Prediction.

← this is a function

⇓

ReLU
(Rectified linear unit)

neuron performs the function

size → ◯ → Price
"x"   'y'
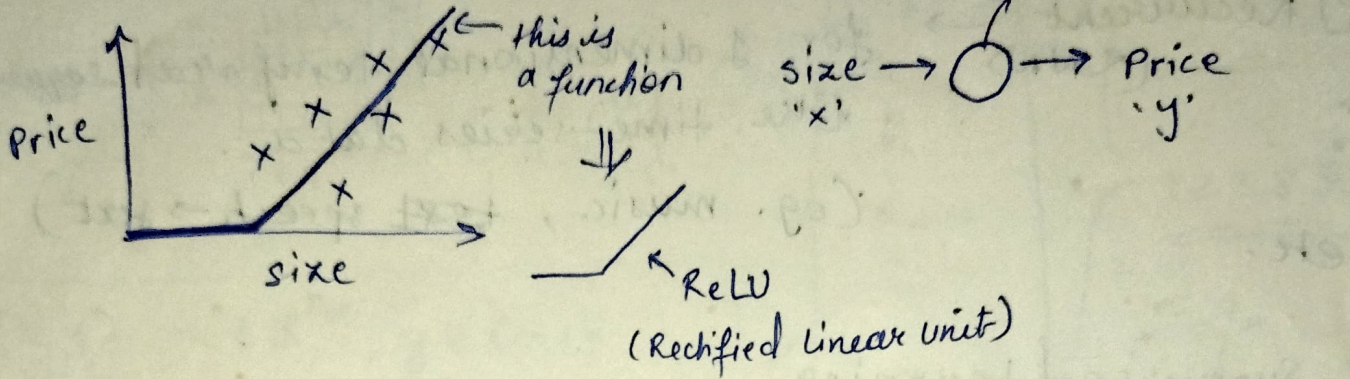
A slightly ^more complicated neural network:

size x_1

bedrooms x_2

Zip code x_3

Wealth of x_4
neighbourhood

Family size

walkability

School quality

Price

y.

size x_1

bedroom x_2

Zip code x_3

wealth x_4

Hidden layer

all inputs connected to all neurons.
(we let the neural network decide whatever the node will compute. We give it all input features so that it could compute whatever it wants.)

→ y
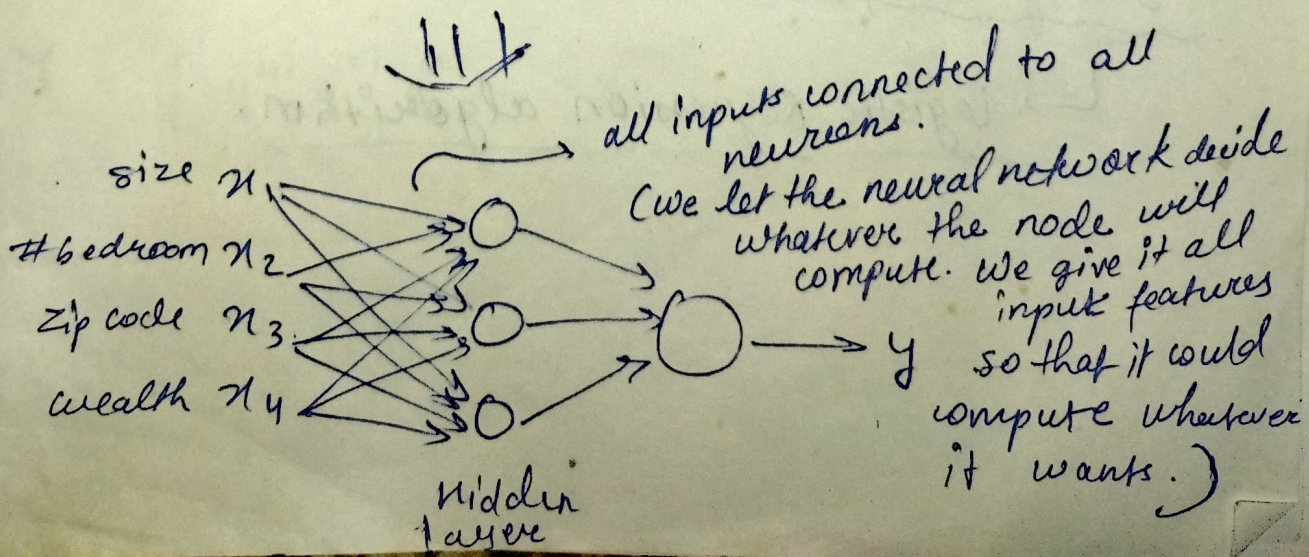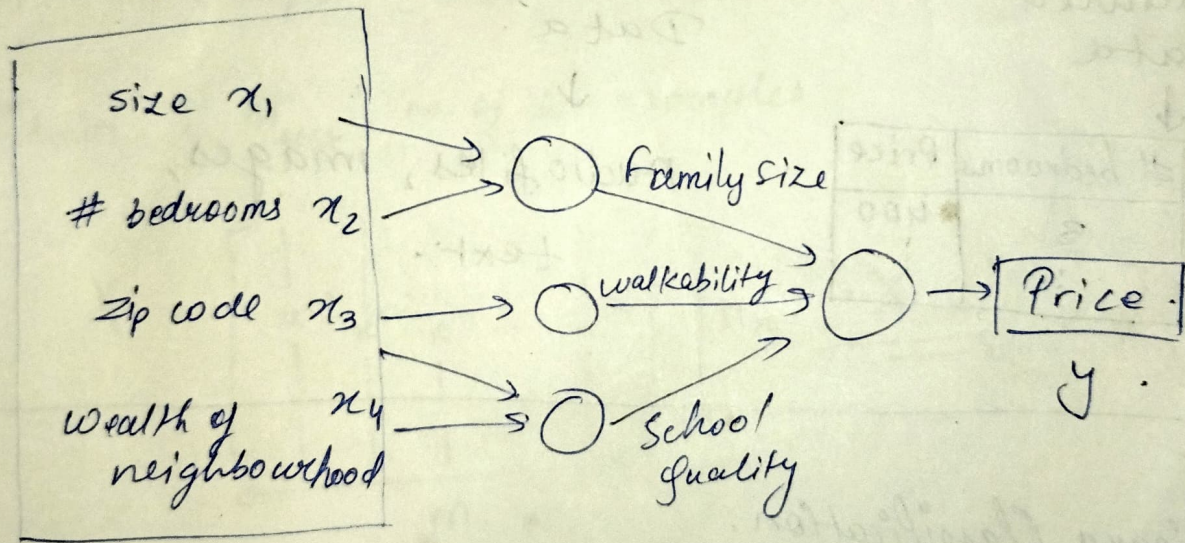
- Examples / types of Neural Networks.

1) Standard NN

2) Convolutional → usually for image processing.
   (CNN)   applications.

3) Recurrent → for 1 dimensional temporal sequence
   (RNN)   like time-series data.
   :   (eg. music, ~~text~~ speech → text)

etc.

- <u>Supervised Learning</u>.

  ↙   ↘
  Structured   unstructured
  data   Data.
  ↓   ↓

Size	# bedrooms	Price
2104	3	400
:	:	:

  Audio files, images,
         text.