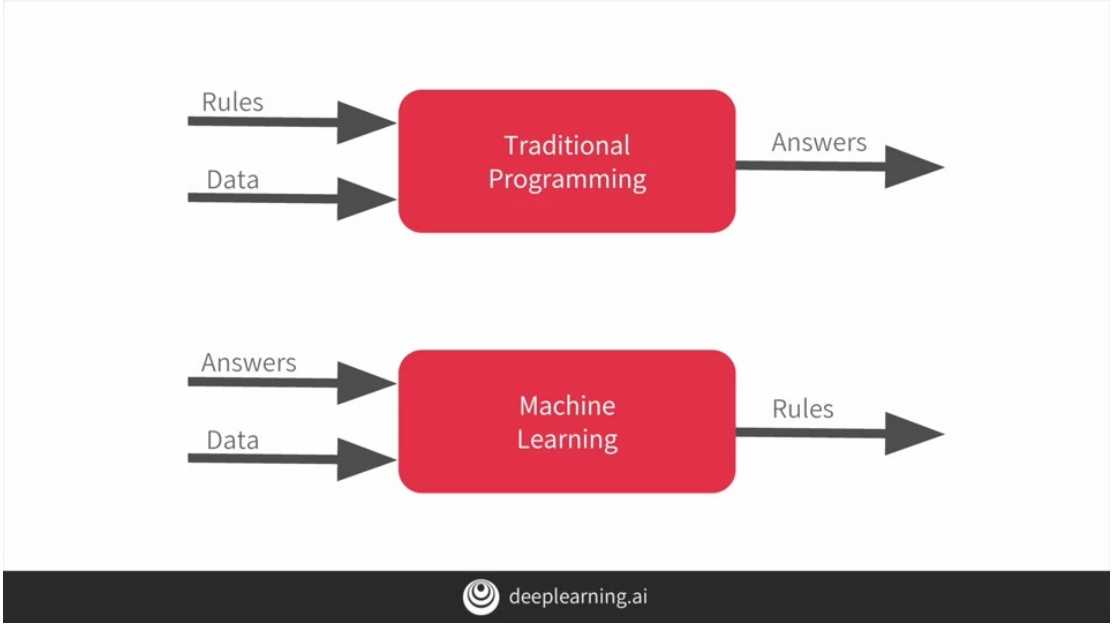
1.1 A primer in machine learning



1.2 The 'Hello World' of neural networks

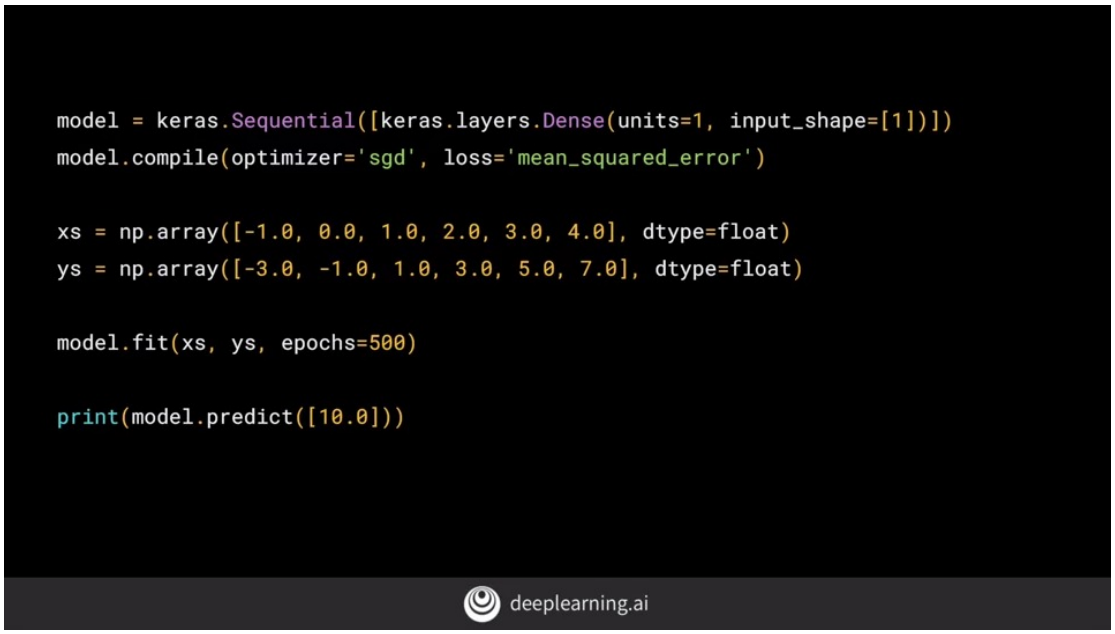
Keras makes it really easy to define neural networks.
A neural network is basically a set of functions which can learn patterns.
The simplest possible neural network is one that has only one neuron in it, and that's what this line of code does.

```
model = keras.Sequential([keras.layers.Dense(units=1, input_shape=[1])])
```

In keras, you use the word **dense** to define a layer of connected neurons.

```
model = keras.Sequential([keras.layers.Dense(units=1, input_shape=[1])])
model.compile(optimizer='sgd', loss='mean_squared_error')
```

There are two function roles that you should be aware of though and these are loss functions and optimizers.
In this case, the loss is **mean squared error** and the optimizer is SGD which stands for **stochastic gradient descent**.



1.3 **Working through ‘Hello World’ in TensorFlow and Python**