Practical – 11

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Aim: Building a basic deep network using keras

Theory:

Keras:

Keras is a high-level library that's built on top of Theano or TensorFlow. It provides a scikit-learn type API (written in Python) for building Neural Networks. Developers can use Keras to quickly build neural networks without worrying about the mathematical aspects of tensor algebra, numerical techniques, and optimization methods.

The key idea behind the development of Keras is to facilitate experimentations by fast prototyping. The ability to go from an idea to result with the least possible delay is key to good research.

This offers a huge advantage for scientists and beginner developers alike because they can dive right into Deep Learning without getting their hands dirty with low-level computations. The rise in the demand for Deep Learning has resulted in the rise in demand for people skilled in Deep Learning.

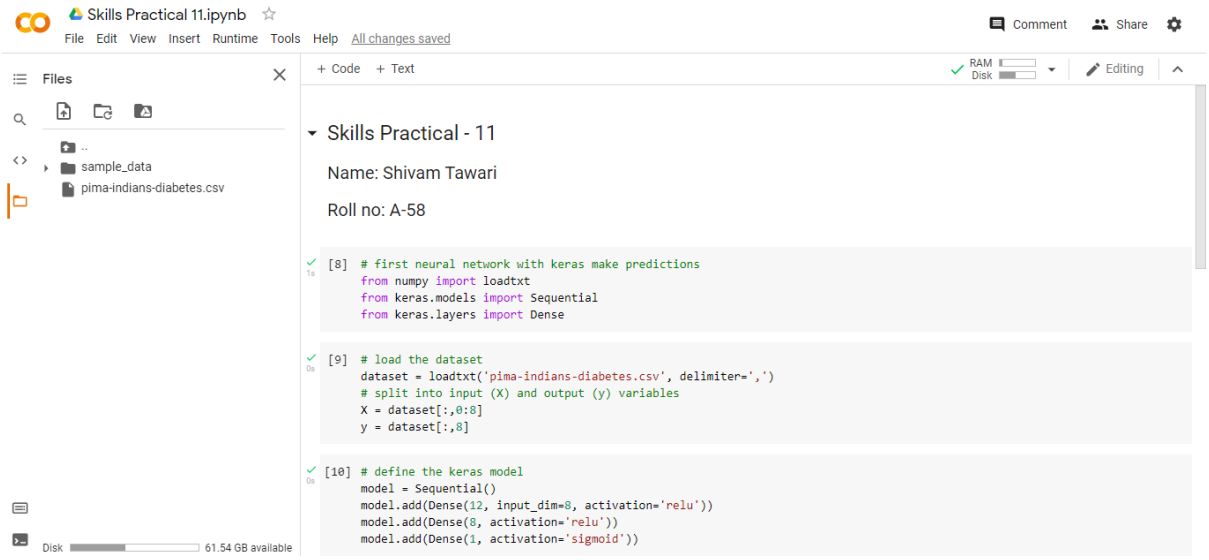
Keras features:

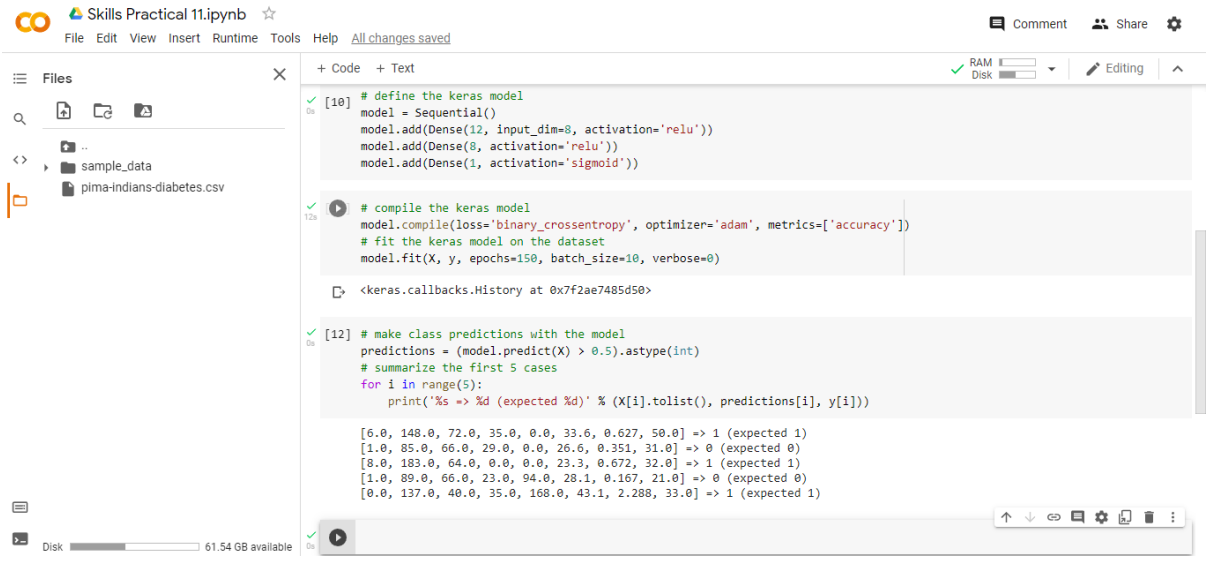
- Keras is a high-level interface and uses Theano or Tensorflow for its backend.
- It runs smoothly on both CPU and GPU.
- Keras supports almost all the models of a neural network – fully connected, convolutional, pooling, recurrent, embedding, etc.

Furthermore, these models can be combined to build more complex models.

- Keras, being modular in nature, is incredibly expressive, flexible, and apt for innovative research.
- Keras is a completely Python-based framework, which makes it easy to debug and explore.

Code:





Conclusion: Hence, successfully performed Building a basic deep network using Keras.