**Implementation Steps:**

1. Data collection: Importing Dataset from git repository (IAM dataset)
2. Importing all required Deep learning related python libraries like Tensorflow Keras, Matplotlib, Numpy.
3. Read the metadata txt file and store the words with “ok” into new array. And then splitting the dataset into 3 parts i.e Training, Validation, testing samples with ration 90:5:5
4. Find maximum length and the size of the vocabulary in the training data. Then build character vocabulary.
5. Resizing the images without distortion in a rectangular size.
6. Set image width to 128,height to 32,Batch size to 64 and padding token to 99.
7. Code for pre processing image, Vectorizing image labels, process image labels and for prepare dataset.
8. Build model with 2 Convolution layers, 2 Max Pooling layers, Add Reshape, Dense and dropout layer, Add 2 Bi directional LSTM layers with filter value as 128,64 and dropout to 0.25.
9. Now, Add 2nd Dense layer with “Softmax” activation. And finally add ctc layer for calculating ctc loss at each step

10) Set Optimizer to “adam” and then build the model.

11) Now add Evaluation metrics, validation images and validation labels. And then create a callback to monitor the edit distances.

12) Now, Build model and then set epoch value and fit model.And train the model.

13) Now take images from testing set and pass them to input layer and predict them. Then, we can get output of predicted text by model.

14) Now plot a graph for Value loss function loss vs var\_loss.