In [1]:

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
import tensorflow as tf
import keras
import pickle
import fasttext
from keras.callbacks import LearningRateScheduler
from tensorflow.keras.layers import Embedding, LSTM, Dense
from tensorflow.keras.models import Model
from tensorflow.keras.layers import *
from tensorflow.keras.preprocessing.text import Tokenizer
from tensorflow.keras.preprocessing.sequence import pad_sequences
from keras.callbacks import ModelCheckpoint, EarlyStopping, TensorBoard, ReduceLROnPlateau
from nlpaug.util.file.download import DownloadUtil

import nlpaug.augmenter.word as naw
from tqdm import tqdm
# pd.options.mode.chained_assignment = None
```

In [2]:

```
data = pd.read_csv("final_data.csv")
data.drop(['Unnamed: 0'],axis=1,inplace=True)
```

In [3]:

```
data.head(5)
```

Out[3]:

	corupted_text	normal_text_input	normal_text_output
0	U wan me to "chop" seat 4 u nt?	<start> Do you want me to reserve seat for you...	Do you want me to reserve seat for you or not?...
1	Yup. U reaching. We order some durian pastry a...	<start> Yeap. You reaching? We ordered some Du...	Yeap. You reaching? We ordered some Durian pas...
2	They become more ex oredi... Mine is like 25.....	<start> They become more expensive already. Mi...	They become more expensive already. Mine is li...
3	I'm thai. what do u do?	<start> I'm Thai. What do you do?	I'm Thai. What do you do? <end>
4	Hi! How did your week go? Haven heard from you...	<start> Hi! How did your week go? Haven't hear...	Hi! How did your week go? Haven't heard from y...

In [ ]:

```
path = "pickles"
model = tf.saved_model.load(path)
```

In [ ]:

```
# loading the dumped file
filename = "model_and_tokenizers/tokenizer_source.pkl"
with open(filename, 'rb') as file:
  tokenizer_source = pickle.load(file)
filename = "model_and_tokenizers/tokenizer_target.pkl"
with open(filename, 'rb') as file:
  tokenizer_target = pickle.load(file)
```

In [1]:

```
max_len=39
max_len_dec=44
```

In [42]:

```
def predict(input_sentence):

  input_sequence=tokenizer_source.texts_to_sequences([input_sentence])
  inputs=pad_sequences(input_sequence, maxlen=max_len, padding='post')
  inputs=tf.convert_to_tensor(inputs)
  result=''
  units=128
  hidden=[tf.zeros((1,units))]
  encoder_output,hidden_state,cell_state=model.encoder(inputs)
  dec_hidden=hidden_state
  dec_input=tf.expand_dims([tokenizer_target.word_index['<start>']],0)
  for t in range(40):
      predictions,dec_hidden,cell_state,attention_weights,context_vector=model.decoder.onestepdecoder((dec_input,
encoder_output,dec_hidden,cell_state))

      predicted_id=tf.argmax(predictions[0]).numpy()
      result+=tokenizer_target.index_word[predicted_id]+' '
      if tokenizer_target.word_index['<end>']==predicted_id:
          return result
      dec_input= tf.expand_dims([predicted_id],0)
  return result
```

In [45]:

```
for i in range(0,10):
    input_sentence=test["corupted_text"].iloc[i]
    print('Input:',input_sentence)
    print('Prediction:',predict(input_sentence))
    print('Actual:',test["normal_text_output"].iloc[i])
    print('*'*100)
```

```
Input: So what new insights hav u gained from my ans to ur qn?
Prediction: So what new insights have you gained from my answers to your question <end>
Actual: So what new insights have you gained from my answers to your question? <end> <end>
****************************************************************************************************
Input: By the way i'm malay hope you guys don't mind
Prediction: By the way I'm Malay hope you guys don't mind <end>
Actual: By the way, I'm Malay, hope you guys don't mind. <end>
****************************************************************************************************
Input: Goto 2 malayu room lah! U can find sme cute gals!!!
Prediction: Go to Malayu room You can find some cute girls <end>
Actual: Go to Malayu room! You can find some cute girls! <end>
****************************************************************************************************
Input: Oh... Lk tt ah... Wat kind of jobs u wan... Waitress or office, i help u look out..
Prediction: Oh Like that What kind of jobs you want Waitress or office I help you look out <end>
Actual: Oh? Like that? What kind of jobs you want? Waitress or office, I help you look out. <end>
****************************************************************************************************
Input: Thkz... So when u leavin for bangkok? Maybe can give u a treat caz i realli wan to find out m
ore abt e course...
Prediction: Thanks So when are you leaving for Bangkok May I have to give you a treat because I real
ly want to find out more about the course <end>
Actual: Thanks. So when are you leaving for Bangkok? May be I can give you a treat, because I really
want to find out more about the course. <end>
****************************************************************************************************
Input: Hmmm.... No la... Thk we will go n apply 4 some stuff first....
Prediction: Hmm No I think we will go and apply for some stuff first <end>
Actual: Hmm. No. I think we will go and apply for some stuff first. <end>
****************************************************************************************************
Input: Okie...Where? meet tpy where?
Prediction: Okie Where Meet tpy where <end>
Actual: Okie. Where? Meet tpy where? <end>
****************************************************************************************************
Input: Okay. cya...
Prediction: Ok See you <end>
Actual: Ok. See you. <end>
****************************************************************************************************
Input: Yup... But i was quite shocked after the bleach... Haha. You going shopping ah? Ya i got the
email...
Prediction: Yes But I was quite shocked after the bleach Haha You are going shopping Yes I got the e
mail <end>
Actual: Yes. But I was quite shocked after the bleach. Haha. You are going shopping? Yes, I got the
email. <end>
****************************************************************************************************
Input: Are you doing anything tomorrow?
Prediction: Are you doing anything tomorrow <end>
Actual: Are you doing anything tomorrow? <end>
****************************************************************************************************
```