Final Project

Please find my final code on GitHub.

The training output is very long, as this is a deep learning task. Following is a screenshot of a part of it. The loss function can be treated as a cross-entropy function.

```
                    Epoch:  10/100,
                    Batch: 1500/4109,
                    Training Loss Error:  1.745,
                    Training Time on 100 Batches: 49 seconds


                    Epoch:  10/100,
                    Batch: 1600/4109,
                    Training Loss Error:  1.735,
                    Training Time on 100 Batches: 41 seconds


                    Epoch:  10/100,
                    Batch: 1700/4109,
                    Training Loss Error:  1.785,
                    Training Time on 100 Batches: 62 seconds


                    Epoch:  10/100,
                    Batch: 1800/4109,
                    Training Loss Error:  1.757,
                    Training Time on 100 Batches: 53 seconds


                    Epoch:  10/100,
                    Batch: 1900/4109,
                    Training Loss Error:  1.751,
                    Training Time on 100 Batches: 55 seconds


                    Epoch:  10/100,
                    Batch: 2000/4109,
                    Training Loss Error:  1.739,
                    Training Time on 100 Batches: 53 seconds

Validation Loss Error:  1.829,
                    Batch Validation Time: 100 seconds
I speak better now!
```

The screenshot below is the testing result, i.e. how I “chat” with this chatbot.
We observed that the result is somehow reasonable, but still need more training. By the way, thanks to Google Colab, I am able to train 14 epochs. I assume with more epochs, we can get smaller validation error, thus more human-like answers.

```
    ...:     print("ChatBot: " + A)

You: hi
ChatBot:  I am not sure I am not going to be able to be here.

You: hello
ChatBot:  I am not sure.

You: how are you
ChatBot:  I am not sure.

You: are you fine
ChatBot:  I am sorry.

You: do you like apple
ChatBot:  I am not going to be aout.

You: what's you favourite color
ChatBot:  I am not sure.
```