# Recurrent Neural Networks

1. (True/False) Recurrent Neural Networks are a class of neural networks that allow previous outputs to be used as inputs while having hidden states.
   1. True
2. (True/False) Recurrent Neural Networks are well suited in applications in which the context is important and needs to be incorporated in the prediction.
   1. True
3. These are the two main outputs of a recurrent neural network:
   1. Prediction and state

# Long-Short Term Memory (LSTM) Networks

1. (True/False) The main motivation behind LSTM is to make it easier to keep information from distant past in current memory without reinforcement.
   1. True
2. RNNs are augmented with the following Gate Units:
   1. Input gate, forget gate, output gate
3. Select the correct assertion regarding the gate units of RNNs:
   1. The gate units control how long the events will stay in memory.
   2. The gate units control if the events will stay in memory.

End of Module Quiz:

1. (True/False) RNN models are mostly used in the fields of natural language processing and speech recognition.
   1. True
2. (True/False) GRUs and LSTM are a way to deal with the vanishing gradient problem encountered by RNNs
   1. True
3. (True/False) GRUs will generally perform about as well as LSTMs with shorter training time, especially for smaller datasets.
   1. True
4. (True/False) The main idea of Seq2Seq models is to improve accuracy by keeping necessary information in the hidden state from one sequence to the next.
   1. True
5. (True/False) The main parts of a Seq2Seq model are: an encoder, a hidden state, a sequence state, and a decoder.
   1. False
6. Select the correct option, in the context of Seq2Seq models:
   1. The **Greedy Search** algorithm selects one best candidate as an input sequence for each time step while the **Beam Search** produces multiple different hypothesis based on **conditional probability**.
7. Which is the gating mechanism for RNNs that include a reset gate and an update gate?
   1. GRUs
8. LSTM models are among the most common Deep Learning models used in forecasting. These are other common uses of LSTM models, except:
   1. Generating Images