**Week 3 Quiz**

1. If X is the standard notation for the input to an RNN, what are the standard notations for the outputs?

Y

H

Y(hat) and H

H(hat) and Y

2. What is a sequence to vector if an RNN has 30 cells numbered 0 to 29

The Y(hat) for the last cell

The average Y(hat) for all 30 cells

The total Y(hat) for all cells

The Y(hat) for the first cell

3. What does a Lambda layer in a neural network do?

There are no Lambda layers in a neural network

Allows you to execute arbitrary code while training

Pauses training without a callback

Changes the shape of the input or output data

4. What does the axis parameter of tf.expand\_dims do?

Defines if the tensor is X or Y

Defines the dimension index at which you will expand the shape of the tensor

Defines the axis around which to expand the dimensions

Defines the dimension index to remove when you expand the tensor

5. A new loss function was introduced in this module, named after a famous statistician. What is it called?

Hyatt loss

Huber loss

Hubble loss

Hawking loss

6. What’s the primary difference between a simple RNN and an LSTM

LSTMs have multiple outputs, RNNs have a single one

In addition to the H output, LSTMs have a cell state that runs across all cells

In addition to the H output, RNNs have a cell state that runs across all cells

LSTMs have a single output, RNNs have multiple

7. If you want to clear out all temporary variables that tensorflow might have from previous sessions, what code do you run?

tf.cache.backend.clear\_session()

tf.keras.backend.clear\_session()

tf.cache.clear\_session()

tf.keras.clear\_session

8. What happens if you define a neural network with these two layers?

tf.keras.layers.Bidirectional(tf.keras.layers.LSTM(32)),

tf.keras.layers.Bidirectional(tf.keras.layers.LSTM(32)),

tf.keras.layers.Dense(1),

Your model will fail because you need return\_sequences=True after the first LSTM layer

Your model will compile and run correctly

Your model will fail because you need return\_sequences=True after each LSTM layer

Your model will fail because you have the same number of cells in each LSTM