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Week 3 Quiz

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

- Y
- H
- Y(hat) and H
- H(hat) and Y

Correct

2. **What is a sequence to vector if an RNN has 30 cells numbered 0 to 29** 1 / 1 point

- The total Y(hat) for all cells
- The Y(hat) for the first cell
- The Y(hat) for the last cell
- The average Y(hat) for all 30 cells

Correct

3. **What does a Lambda layer in a neural network do?** 1 / 1 point

- Pauses training without a callback
- There are no Lambda layers in a neural network
- Changes the shape of the input or output data
- Allows you to execute arbitrary code while training

Correct

4. **What does the axis parameter of tf.expand_dims do?** 1 / 1 point

- 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

Correct

5. **A new loss function was introduced in this module, named after a famous statistician. What is it called?** 1 / 1 point

- Hyatt loss

- Huber loss
- Hawking loss
- Hubble loss

✓ Correct

6. What's the primary difference between a simple RNN and an LSTM — 1 / 1 point

- LSTMs have a single output, RNNs have multiple
- In addition to the H output, RNNs have a cell state that runs across all cells
- In addition to the H output, LSTMs have a cell state that runs across all cells
- LSTMs have multiple outputs, RNNs have a single one

✓ Correct

7. If you want to clear out all temporary variables that tensorflow might have from previous sessions, what code do you run? — 1 / 1 point

- tf.cache.clear_session()
- tf.cache.backend.clear_session()
- tf.keras.backend.clear_session()
- tf.keras.clear_session

✓ Correct

8. What happens if you define a neural network with these two layers? — 1 / 1 point

```
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 each LSTM layer
- Your model will fail because you have the same number of cells in each LSTM
- Your model will fail because you need return_sequences=True after the first LSTM layer
- Your model will compile and run correctly

✓ Correct