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

- ○ 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 a single output, RNNs have multiple
- ○ LSTMs have multiple outputs, RNNs have a single one

Correct

**2.** 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.keras.backend.clear_session()
- ○ tf.cache.clear_session()
- ○ tf.keras.clear_session
- ○ tf.cache.backend.clear_session()

Correct

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

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

Correct

**4.** 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

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

- ○ Hyatt loss
- ○ Hubble loss
- ◉ Huber loss
- ○ Hawking loss

Correct

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

- ○ The Y(hat) for the second cell
- ◉ The Y(hat) for the last cell
- ○ The total Y(hat) for all cells
- ○ The average Y(hat) for all 30 cells

✓ Correct

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

- ○ Defines the dimension index to remove when you expand the tensor
- ○ Defines if the tensor is X or Y
- ○ Defines the axis around which to expand the dimensions
- ◉ Defines the dimension index at which you will expand the shape of the tensor

✓ Correct

**8.** What happens if you define a neural network with these three 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 compile and run correctly
- ◉ Your model will fail because you need return_sequences=True after the first 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 each LSTM layer

✓ Correct