Week 3 Quiz

TOTAL POINTS 8

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

- [ ] Y
- [x] 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** 1 point

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

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

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

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

- [ ] Defines if the tensor is X or Y
- [ ] Defines the axis around which to expand the dimensions
- [x] Defines the dimension index at which you will expand the shape of the tensor
- [ ] 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?** 1 point

- [ ] Hyatt loss
- [ ] Hubble loss
- [ ] Hawking loss
- [x] Huber loss

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

- [ ] LSTMs have multiple outputs, RNNs have a single one
- [ ] LSTMs have a single output, RNNs have multiple
- [x] 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

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

- [x] tf.keras.backend.clear_session()
- [ ] tf.cache.clear_session()
- [ ] tf.cache.backend.clear_session()
- [ ] tf.keras.clear_session

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

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

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tf.keras.layers.Dense(1),

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