

1. Tokenization in the context of NLP is the process of:

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- ☒ Splitting a sequence or corpus of text data, into smaller units (called tokens), such as individual words or terms.
- ☐ Adding tags to the ends of sentences or text data so as to aid in classification.



Correcto

Correct! We applied this idea in Task 3 of the hands-on project to convert comments into tokens, and eventually transformed them into a numerical representation.

2. The following is the code defining the model we built for text classification in the hands-on project. Besides modifying the data to include labels for other classes, what would you change in the code so that the model can output 6 labels?

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```
1  model = Sequential()
2  model.add(Embedding(max_features,
3                      embedding_dims,
4                      embeddings_initializer=tf.keras.initializers.Constant
5                      trainable=False))
6  model.add(Dropout(0.2))
7  model.add(Conv1D(filters,
8                  kernel_size,
9                  padding='valid',
10                 activation='relu'))
11 model.add(MaxPooling1D())
12 model.add(Conv1D(filters,
13                 5,
14                 padding='valid',
15                 activation='relu'))
16 model.add(GlobalMaxPooling1D())
17 model.add(Dense(hidden_dims, activation='relu'))
18 model.add(Dropout(0.2))
19
20 model.add(Dense(1, activation='softmax'))
21 model.summary()
```

- ☐ On line 13, change the "5" to a "6"
- ☒ On line 20, change the "1" to a "6"
- ☐ Add 4 more Conv1D layers to the model



Correcto

Correct!

3. Our model "learned" the word embeddings from scratch during training. Is the statement True or False?

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- ☐ True
- ☒ False



Correcto

Good job! Rather than let the network learn the embeddings through backpropagation during training, we used the GloVe pre-trained word embeddings.

4. What were the 1D convolutions in the project used as?

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- ☐ Classifiers
- ☒ Feature extractors



Correcto

Correct!

5. Why did we pad the input sequences before giving it to the model?

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- ☐ Neural networks require a lot of training data to learn patterns in them. As our data set of comments contained few examples, we increased the size of our data by padding them.
- ☒ Neural networks require inputs that have the same shape and size. However, when we pre-process and use the text as inputs for our model, not all the input sentences have the same length. In order to ensure that all sentences have the same length, we use padding.



Correcto

Correct! In Tasks 3 and 7, we used the [tf.keras.preprocessing.sequence.pad_sequences](#) function to pad sequences to the same length.