### Example assessment questions for spectrograms and MFCCs

Question

Spectrograms are computed from an audio signal in order to convert frequency data into a time domain audio signal.

1. True
2. **False**

Explanation: spectrograms are used to extract frequencies from time domain audio signals and to provide higher-level features to the neural network.

Question

Why do we use the Mel-frequency cepstral coefficients (MFCCs) as features for audio data?

1. **They mimic how the human ear perceives sound.**
2. They mimic how the human vocal cords and mouth produce sound.
3. They provide data augmentation to help create a more robust audio classifier.
4. They help prevent overfitting.

Question

What does a single node in a convolution layer of a convolutional neural network do?

1. It prevents a random selection of outputs of the previous layer from reaching the next layer.
2. It slides a window over the image, selecting the highest pixel value in that window.
3. **It filters the image using a kernel.**
4. It combines the outputs of the previous layer such that they each have a value between 0 and 1 and all sum to 1.

Question

Dropout layers are used to reduce underfitting.

1. True
2. **False**

Explanation: They are used to reduce overfitting.