**Exercise 1.** Accuracy of classifier model with Keras

1. Import the 'one_hot', 'pad_sequences', 'Sequential', 'Dense, Flatten', 'Embedding', and 'pandas' libraries.
2. Define the corpus with the following sentences: This is good pizza, I love Italian pizza, The best pizza, nice pizza, Excellent pizza, I love pizza, The pizza was alright, disgusting pineapple pizza, not good pizza, bad pizza, very bad pizza, I had better pizza.
3. Create class labels for each sentence '1' for positive and '0' for negative.
4. Create a data frame with 'text' as corpus and 'sentiment' as labels.
5. Extract the vocabulary from the corpus and encode it.
6. Pad the document to the maximum length of the longest sentences to have uniform length.
7. Define the model with Keras with Embedding (None, 5.8) as output shape, Flatten (None, 40), and Dense (None, 1).
8. Use epochs = 50, optimizer ='adam', loss='binary_crossentropy', and metrics=['acc'].
9. What are your conclusions about the model?

**Exercise 2.**

1. Load nltk, pandas, re, numpy, and matplotlb.
2. Use the Tweets.csv file in Google Drive


3. Take a look at the first five rows.
4. Plot the shares of airlines mentioned in the data.
5. Plot the percentage of positive, negative, and neutral sentiments.
6. In a bar chart, show the number of positive, negative, and neutral comments by airline.
7. Using Seaborn, show airlines' sentiment confidence.
8. Define the features and labels.
9. Clean the tweets.
10. Vectorize the tweets.
11. Create a train and test (20%) dataset.

12. Import the RandomClassifier model.
13. Define the 'predictions'.
14. Generate the confusion matrix, the classification report, and the accuracy score.
15. What is your conclusion?