**What is data augmentation?**

For problems like image classification and segmentation, there is a need for a large amount of data. Sometimes, if the data availability is less, using data augmentation techniques can help in increasing the amount of data in the dataset. In this technique, we generate new instances of images by cropping, flipping, zooming, shearing an original image. So, whenever the training lacks the image dataset, using augmentation, we can create thousands of images to train the model perfectly.

**Data pre-processing**

* Import the required libraries
* load the dataset from keras
* normalize the data
* convert the target into categorical values
* Apply data augmentation techniques on the train data

**Building the model**

* Construct a basic CNN model without the data augmentation techniques
* Construct a CNN model with data augmentation
* Evaluate both models and compare the model performance