In [7]:
```
#pip install tensorflow
```

In [8]:
```
import tensorflow as tf
from tensorflow.keras import datasets, layers, models
import matplotlib.pyplot as plt
```

In [9]:
```
(train_images, train_labels), (test_images, test_labels) = datasets.cifar10.load_data(
train_images, test_images = train_images / 255.0, test_images / 255.0
```

In [10]:
```
model = models.Sequential([
    layers.Conv2D(32, (3, 3), activation='relu', input_shape=(32, 32, 3)),
    layers.MaxPooling2D((2, 2)),
    layers.Conv2D(64, (3, 3), activation='relu'),
    layers.MaxPooling2D((2, 2)),
    layers.Conv2D(64, (3, 3), activation='relu'),
    layers.Flatten(),
    layers.Dense(64, activation='relu'),
    layers.Dense(10)
])
```

In [11]:
```
model.compile(optimizer='adam',
              loss=tf.keras.losses.SparseCategoricalCrossentropy(from_logits=True),
              metrics=['accuracy'])
```

In [12]:
```
history = model.fit(train_images, train_labels, epochs=10,
                    validation_data=(test_images, test_labels))
```

```
Epoch 1/10
1563/1563 [==============================] - 16s 10ms/step - loss: 1.5076 - accuracy:
0.4529 - val_loss: 1.2134 - val_accuracy: 0.5617
Epoch 2/10
1563/1563 [==============================] - 15s 10ms/step - loss: 1.1411 - accuracy:
0.5959 - val_loss: 1.0696 - val_accuracy: 0.6225
Epoch 3/10
1563/1563 [==============================] - 16s 10ms/step - loss: 0.9939 - accuracy:
0.6503 - val_loss: 0.9666 - val_accuracy: 0.6567
Epoch 4/10
1563/1563 [==============================] - 15s 10ms/step - loss: 0.8918 - accuracy:
0.6854 - val_loss: 0.9758 - val_accuracy: 0.6627
Epoch 5/10
1563/1563 [==============================] - 15s 10ms/step - loss: 0.8181 - accuracy:
0.7116 - val_loss: 0.8803 - val_accuracy: 0.6973
Epoch 6/10
1563/1563 [==============================] - 15s 10ms/step - loss: 0.7569 - accuracy:
0.7337 - val_loss: 0.9277 - val_accuracy: 0.6873
Epoch 7/10
1563/1563 [==============================] - 15s 10ms/step - loss: 0.7096 - accuracy:
0.7518 - val_loss: 0.8899 - val_accuracy: 0.6951
Epoch 8/10
1563/1563 [==============================] - 15s 10ms/step - loss: 0.6662 - accuracy:
0.7627 - val_loss: 0.8708 - val_accuracy: 0.7015
Epoch 9/10
1563/1563 [==============================] - 16s 10ms/step - loss: 0.6266 - accuracy:
0.7815 - val_loss: 0.9005 - val_accuracy: 0.6981
Epoch 10/10
1563/1563 [==============================] - 16s 10ms/step - loss: 0.5911 - accuracy:
0.7923 - val_loss: 0.8851 - val_accuracy: 0.7128
```

In [13]:
```
test_loss, test_acc = model.evaluate(test_images,  test_labels, verbose=2)
print("\nTest accuracy:", test_acc)
```

```
313/313 - 1s - loss: 0.8851 - accuracy: 0.7128 - 1s/epoch - 3ms/step

Test accuracy: 0.7128000259399414
```

In [ ]:
```

```