```python

import tensorflow as tf

from tensorflow import keras

from tensorflow.keras import layers

# Load and preprocess the CIFAR-10 dataset

(x\_train, y\_train), (x\_test, y\_test) = keras.datasets.cifar10.load\_data()

x\_train, x\_test = x\_train / 255.0, x\_test / 255.0

# Define the CNN model

model = keras.Sequential([

# Convolutional layers

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'),

# Fully connected layers

layers.Flatten(),

layers.Dense(64, activation='relu'),

layers.Dense(10) # 10 classes for CIFAR-10

])

# Compile the model

model.compile(optimizer='adam',

loss=tf.keras.losses.SparseCategoricalCrossentropy(from\_logits=True),

metrics=['accuracy'])

# Model summary

model.summary()

# Train the model

model.fit(x\_train, y\_train, epochs=10, validation\_data=(x\_test, y\_test))

# Evaluate the model

test\_loss, test\_acc = model.evaluate(x\_test, y\_test, verbose=2)

print(f'Test accuracy: {test\_acc}')

```