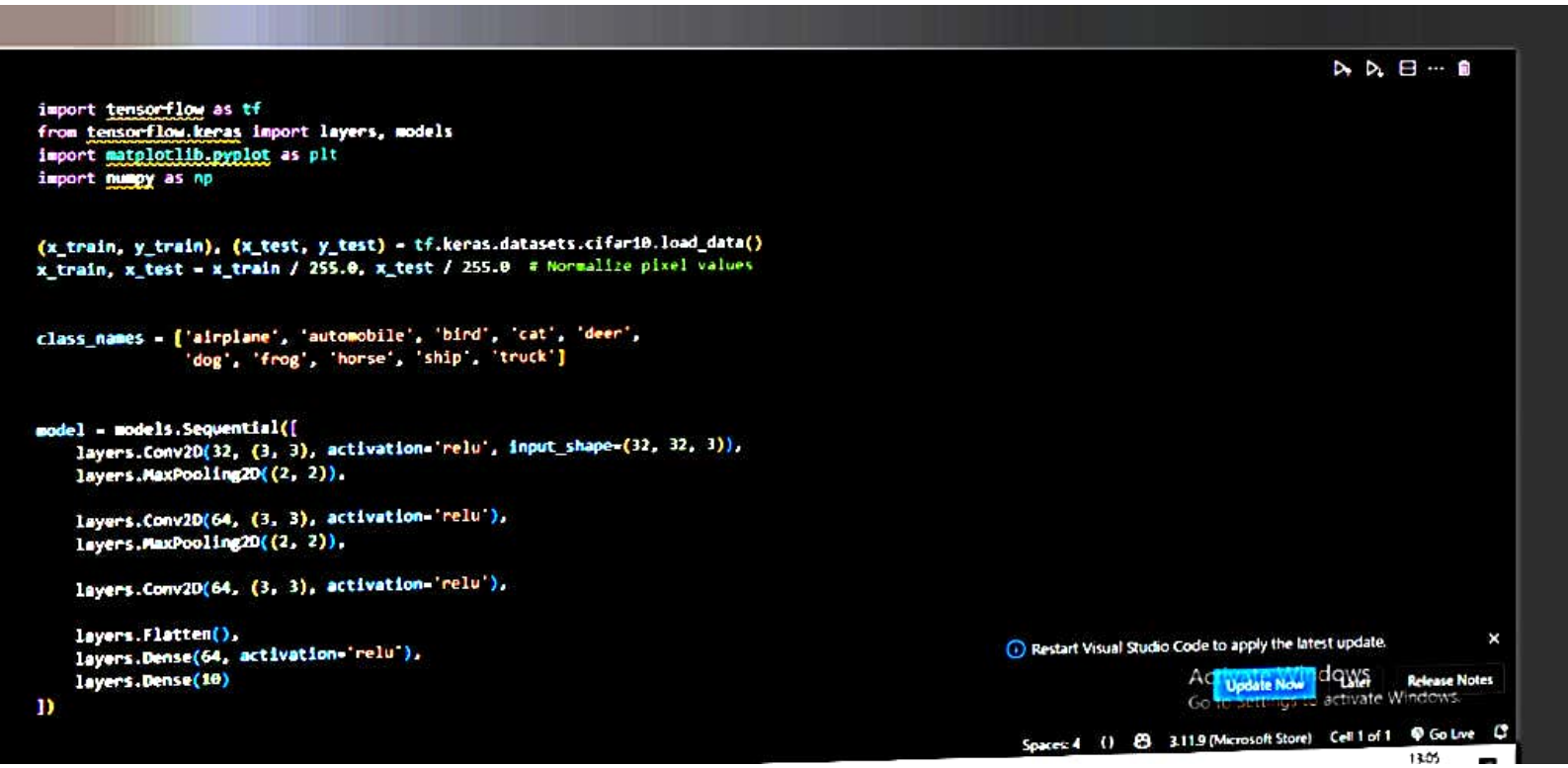
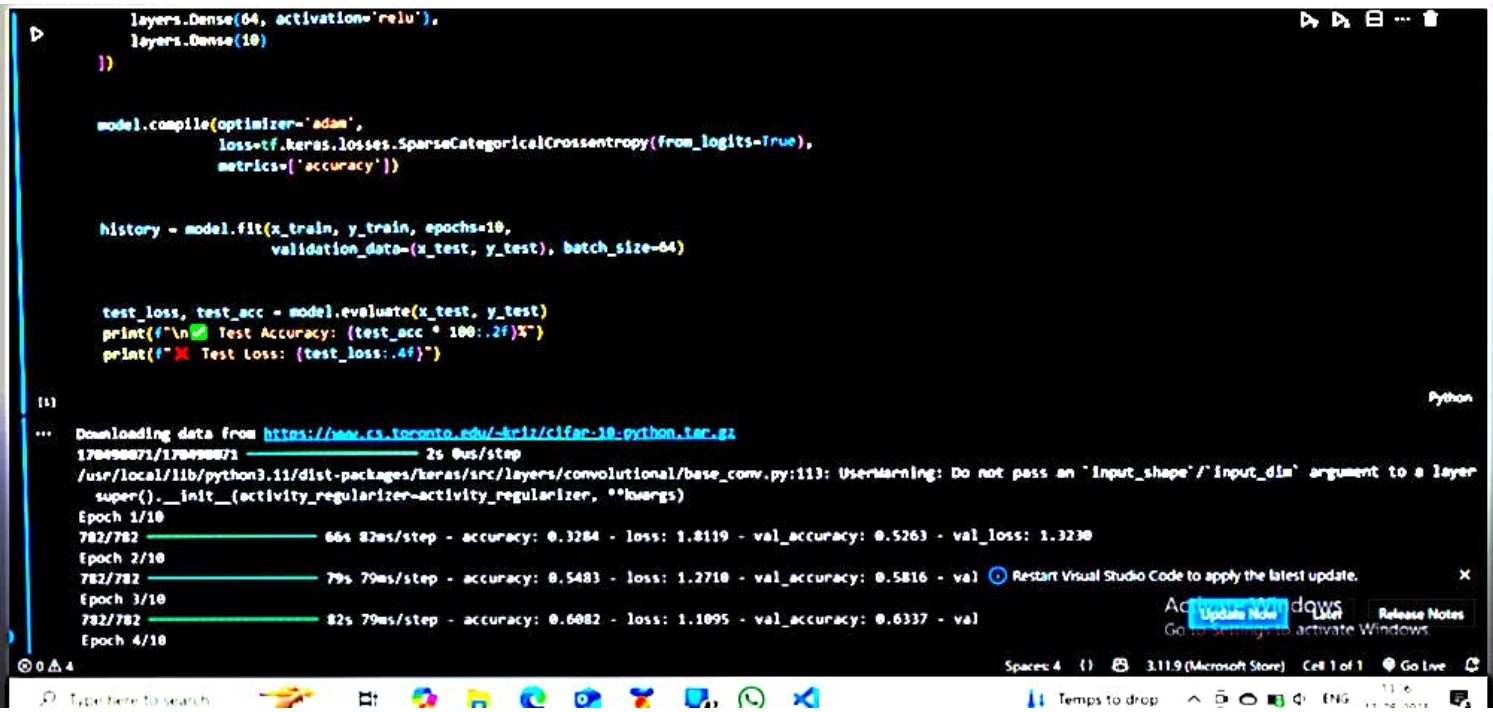
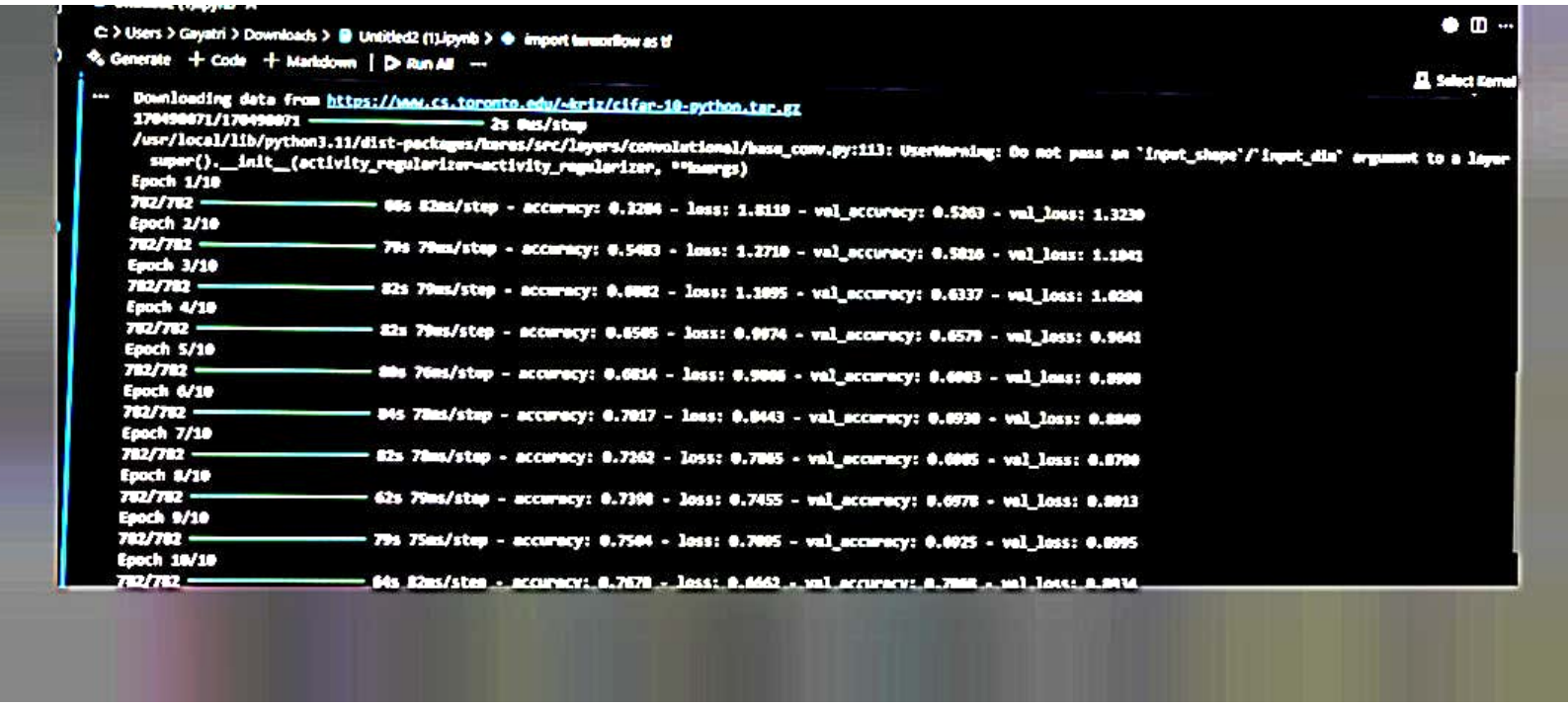


```python
import tensorflow as tf
from tensorflow.keras import layers, models
import matplotlib.pyplot as plt
import numpy as np


(x_train, y_train), (x_test, y_test) = tf.keras.datasets.cifar10.load_data()
x_train, x_test = x_train / 255.0, x_test / 255.0  # Normalize pixel values


class_names = ['airplane', 'automobile', 'bird', 'cat', 'deer',
               'dog', 'frog', 'horse', 'ship', 'truck']


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)
])
```


layers.Dense(64, activation='relu'),
layers.Dense(10)
])
model.compile(optimizer='adam',
loss=tf.keras.losses.SparseCategoricalCrossentropy(from_logits=True),
metrics=['accuracy'])
history = model.fit(x_train, y_train, epochs=10,
validation_data=(x_test, y_test), batch_size=64)
test_loss, test_acc = model.evaluate(x_test, y_test)
print(f"\n✅ Test Accuracy: {test_acc * 100:.2f}%")
print(f"❌ Test Loss: {test_loss:.4f}")
[1]
Python
Downloading data from https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
170498071/170498071 2s 0us/step
/usr/local/lib/python3.11/dist-packages/keras/src/layers/convolutional/base_conv.py:113: UserWarning: Do not pass an `input_shape`/`input_dim` argument to a layer
super().__init__(activity_regularizer=activity_regularizer, **kwargs)
Epoch 1/10
782/782 66s 82ms/step - accuracy: 0.3284 - loss: 1.8119 - val_accuracy: 0.5263 - val_loss: 1.3230
Epoch 2/10
782/782 79s 79ms/step - accuracy: 0.5483 - loss: 1.2710 - val_accuracy: 0.5816 - val
Restart Visual Studio Code to apply the latest update.
Update Now
Later
Release Notes
Epoch 3/10
782/782 82s 79ms/step - accuracy: 0.6082 - loss: 1.1095 - val_accuracy: 0.6337 - val
Epoch 4/10
Go to Settings to activate Windows.
Spaces: 4
3.11.9 (Microsoft Store)
Cell 1 of 1
Go Live
Temps to drop
ENG


Users > Gayatri > Downloads > Untitled2 (1).ipynb > import tensorflow as tf
Generate + Code + Markdown | Run All ...
Select Kernel
Downloading data from https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
170498071/170498071 2s 0us/step
/usr/local/lib/python3.11/dist-packages/keras/src/layers/convolutional/base_conv.py:113: UserWarning: Do not pass an `input_shape`/`input_dim` argument to a layer
super().__init__(activity_regularizer=activity_regularizer, **kwargs)
Epoch 1/10
782/782 98s 82ms/step - accuracy: 0.3284 - loss: 1.8119 - val_accuracy: 0.5263 - val_loss: 1.3230
Epoch 2/10
782/782 79s 79ms/step - accuracy: 0.5483 - loss: 1.2710 - val_accuracy: 0.5816 - val_loss: 1.1841
Epoch 3/10
782/782 82s 79ms/step - accuracy: 0.6082 - loss: 1.1095 - val_accuracy: 0.6337 - val_loss: 1.0298
Epoch 4/10
782/782 82s 79ms/step - accuracy: 0.6505 - loss: 0.9974 - val_accuracy: 0.6579 - val_loss: 0.9641
Epoch 5/10
782/782 80s 76ms/step - accuracy: 0.6814 - loss: 0.9086 - val_accuracy: 0.6883 - val_loss: 0.8908
Epoch 6/10
782/782 84s 78ms/step - accuracy: 0.7017 - loss: 0.8443 - val_accuracy: 0.6930 - val_loss: 0.8849
Epoch 7/10
782/782 82s 78ms/step - accuracy: 0.7262 - loss: 0.7805 - val_accuracy: 0.6985 - val_loss: 0.8700
Epoch 8/10
782/782 62s 79ms/step - accuracy: 0.7398 - loss: 0.7455 - val_accuracy: 0.6978 - val_loss: 0.8813
Epoch 9/10
782/782 79s 75ms/step - accuracy: 0.7504 - loss: 0.7095 - val_accuracy: 0.6925 - val_loss: 0.8995
Epoch 10/10
782/782 64s 82ms/step - accuracy: 0.7670 - loss: 0.6662 - val_accuracy: 0.7008 - val_loss: 0.8914