**Fall 2023: CS5720 Neural Networks & Deep Learning - ICP-7**

**Assignment-7**

**NAME:RAJYALAKSHMI GOTTIPATI**

**STUDENT ID:700745186**

Github Link:<https://github.com/rajigottipati/icp-7.git>

Video Link:

[**https://drive.google.com/file/d/1ezEZLqOIaomwBW0ctEZSOBCUWFzj0ThM/view?usp=drive\_link**](https://drive.google.com/file/d/1ezEZLqOIaomwBW0ctEZSOBCUWFzj0ThM/view?usp=drive_link)

**Use Case Description:**

**Image Classification with CNN**

**1. Training the model**

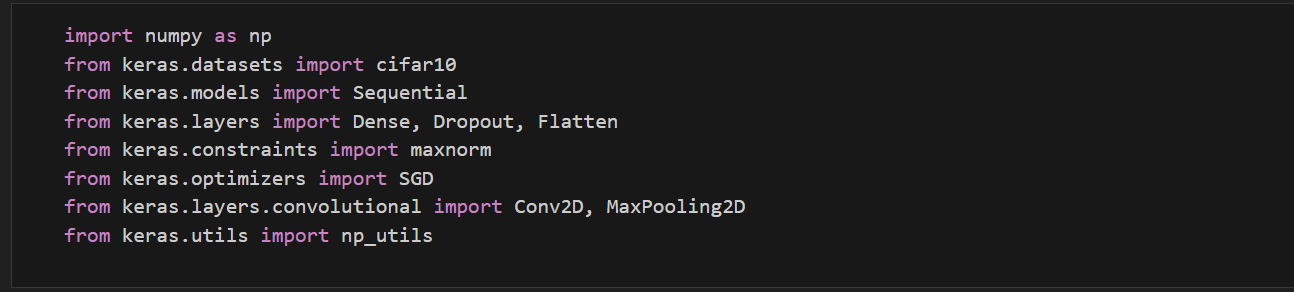
**2. Evaluating the model**

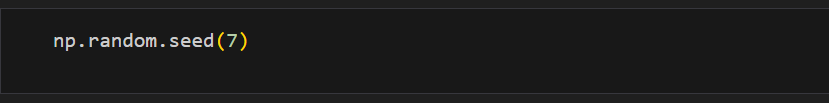
**In class programming:**

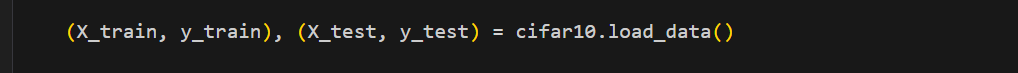
**1. Follow the instruction below and then report how the performance changed.(apply all at once) • Convolutional input layer, 32 feature maps with a size of 3×3 and a rectifier activation function. • Dropout layer at 20%. • Convolutional layer, 32 feature maps with a size of 3×3 and a rectifier activation function. • Max Pool layer with size 2×2. • Convolutional layer, 64 feature maps with a size of 3×3 and a rectifier activation function. • Dropout layer at 20%. • Convolutional layer, 64 feature maps with a size of 3×3 and a rectifier activation function. • Max Pool layer with size 2×2. • Convolutional layer, 128 feature maps with a size of 3×3 and a rectifier activation function. • Dropout layer at 20%. • Convolutional layer,128 feature maps with a size of 3×3 and a rectifier activation function. • Max Pool layer with size 2×2. • Flatten layer. • Dropout layer at 20%. • Fully connected layer with 1024 units and a rectifier activation function. • Dropout layer at 20%. • Fully connected layer with 512 units and a rectifier activation function. • Dropout layer at 20%. • Fully connected output layer with 10 units and a Softmax activation function Did the performance change?**

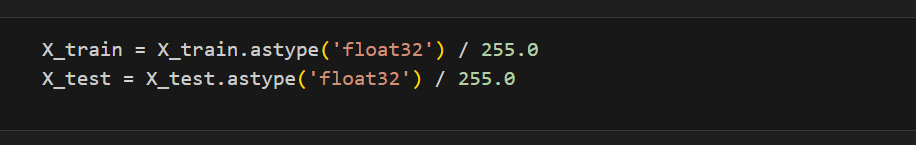
**2. Predict the first 4 images of the test data using the above model. Then, compare with the actual label for those 4 images to check whether or not the model has predicted correctly.**

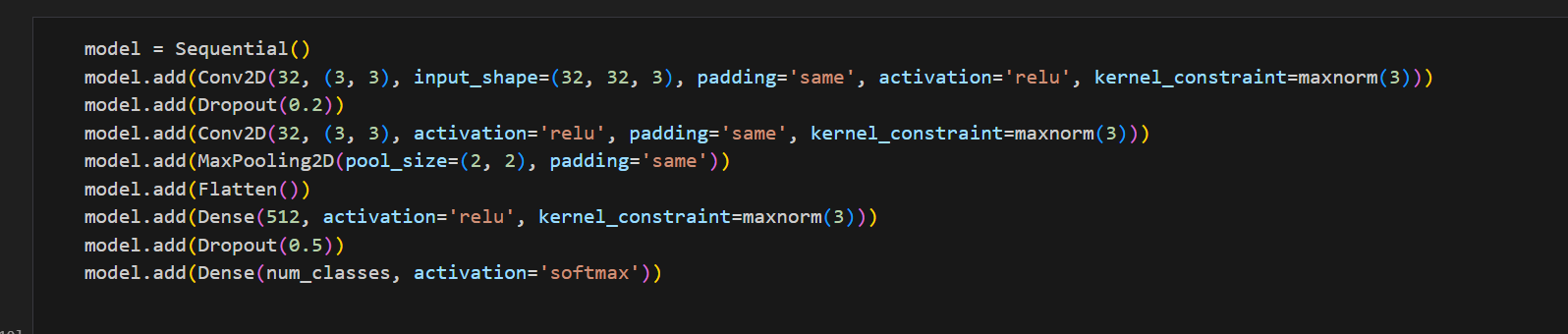
**3. Visualize Loss and Accuracy using the history object**

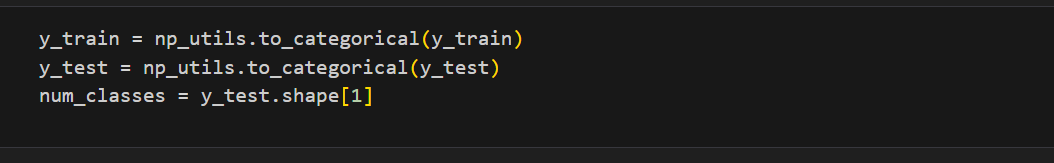
****

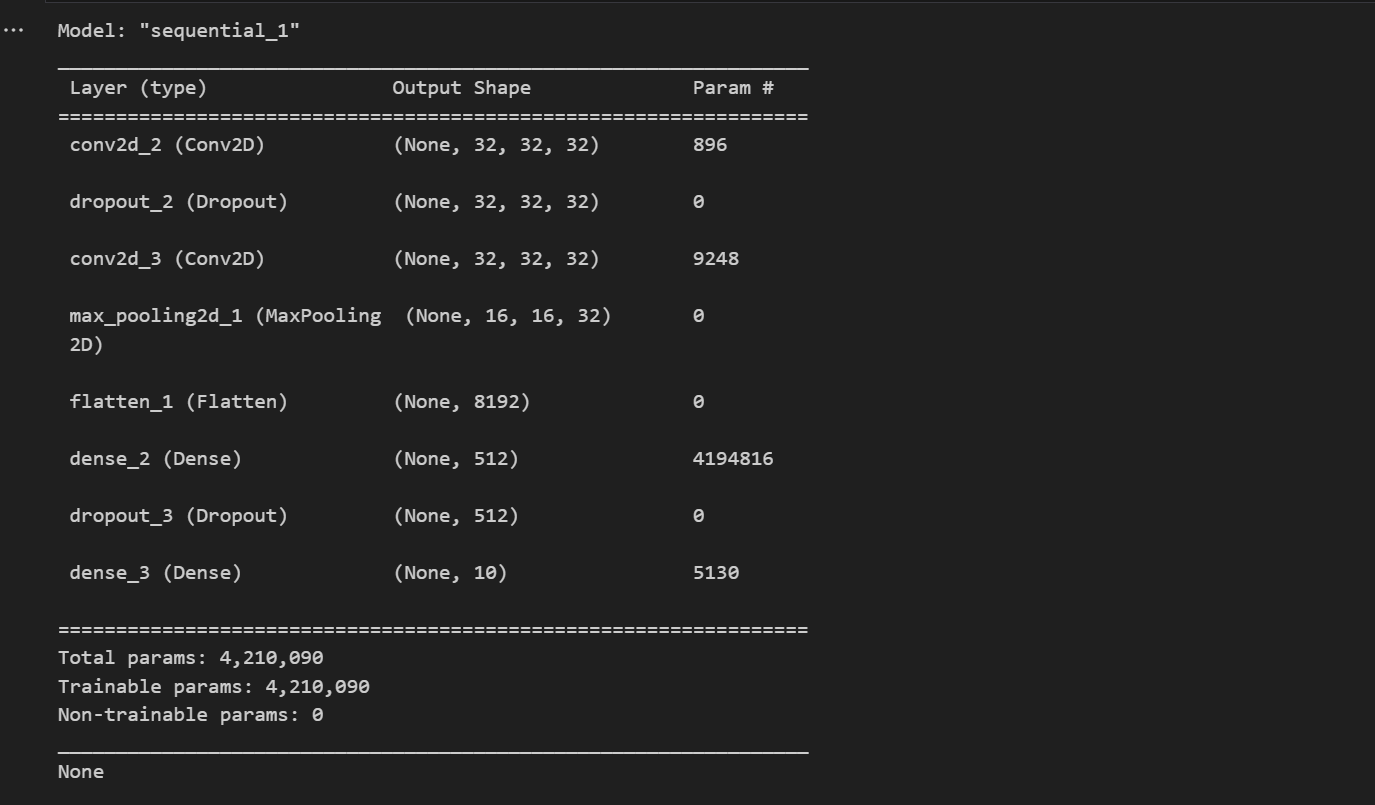
****

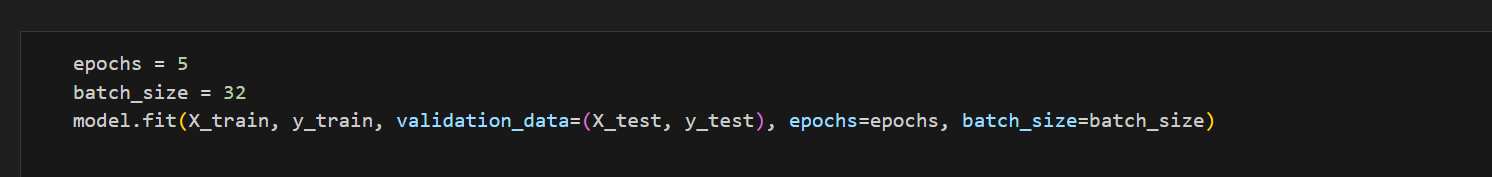
****

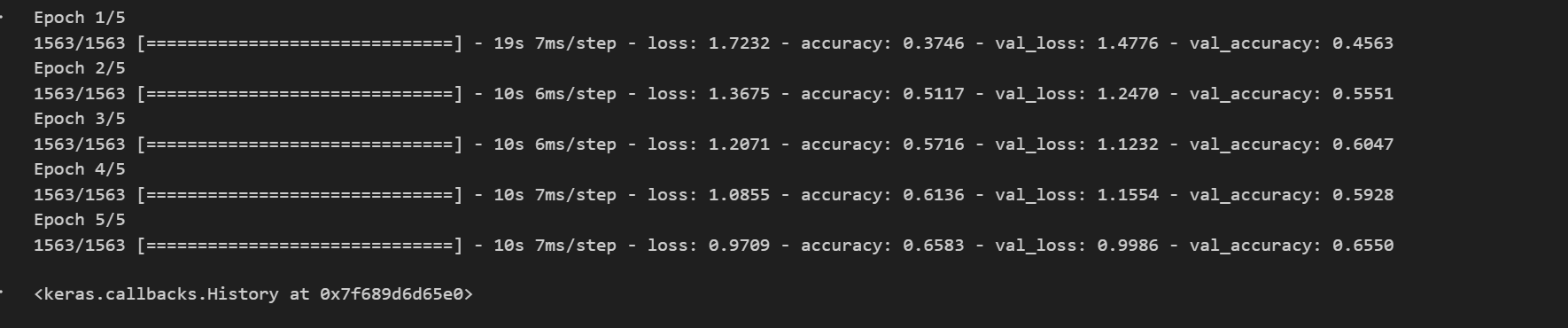
****

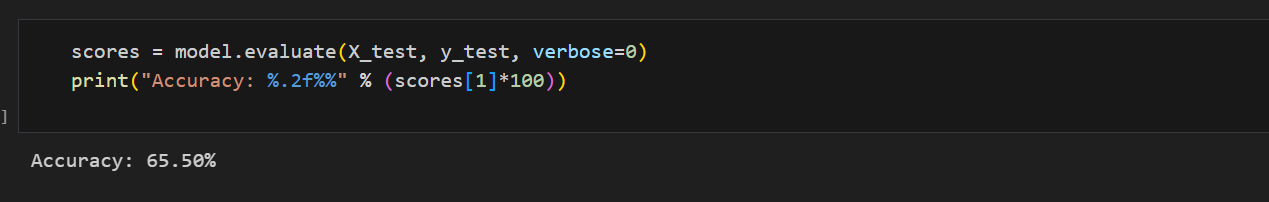
****

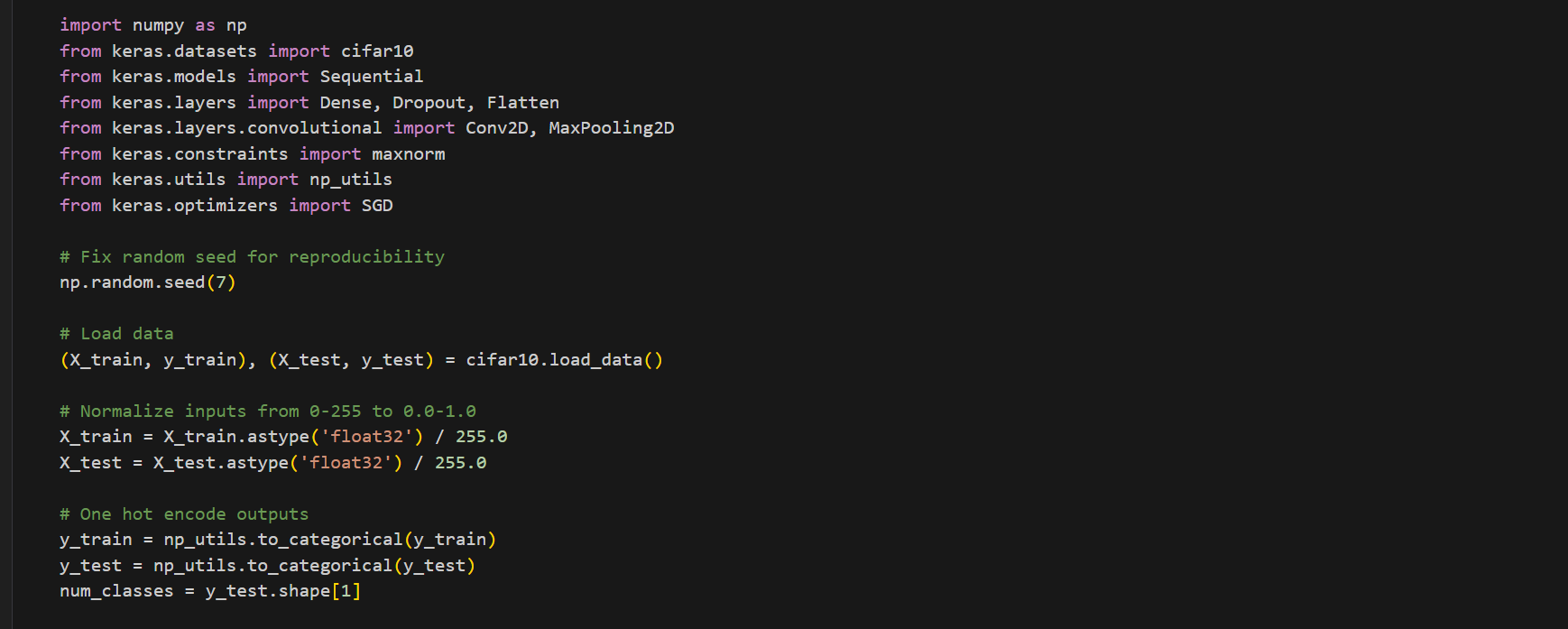
****

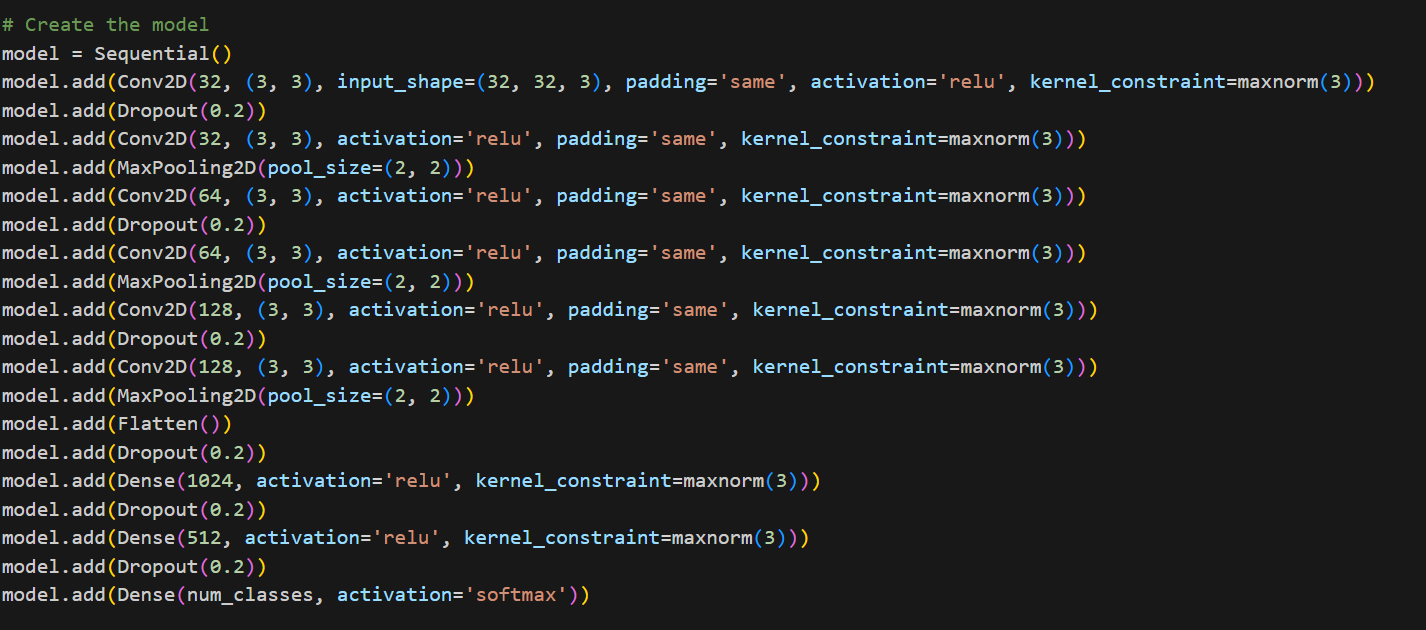
****

****

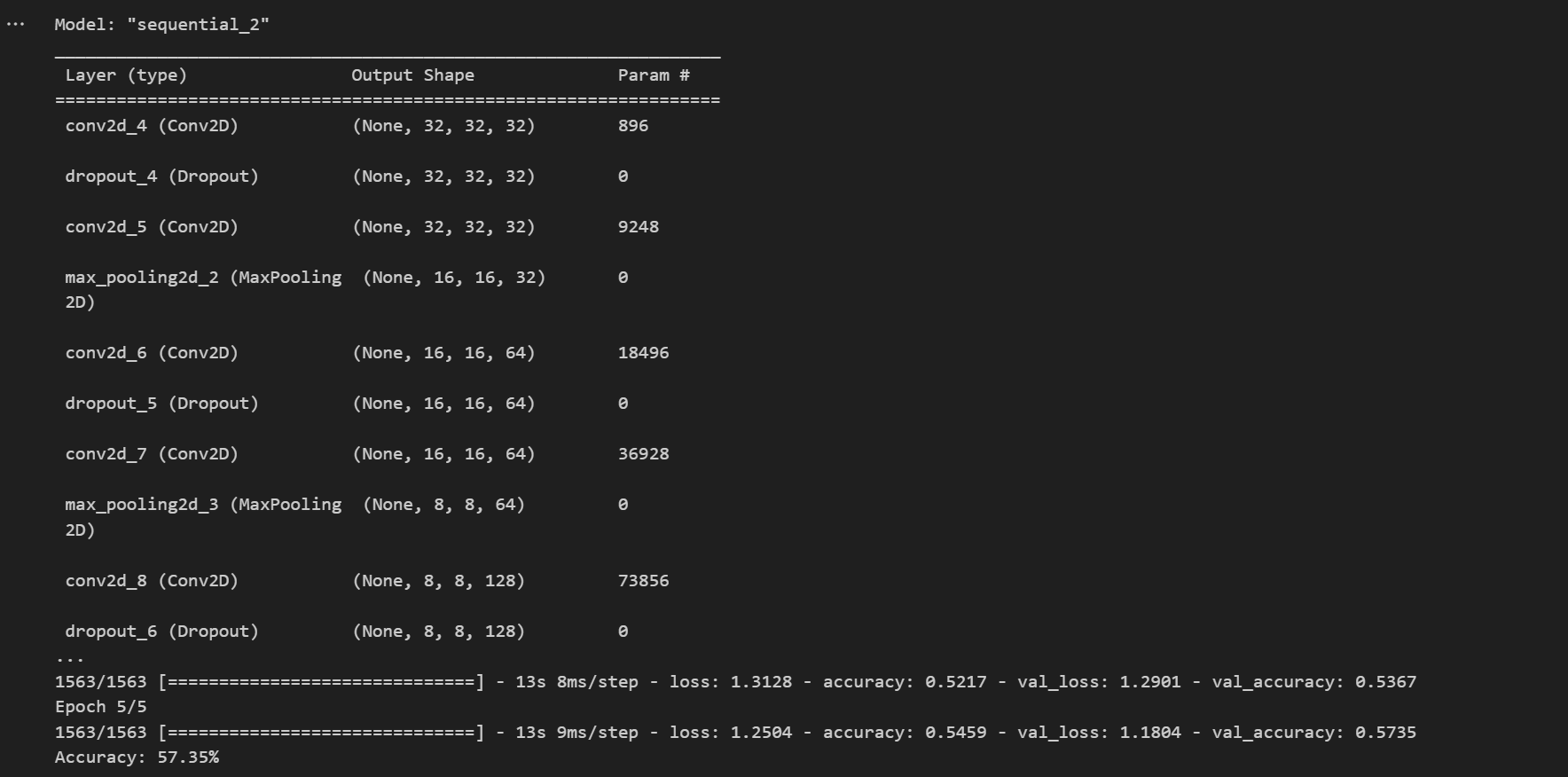
****

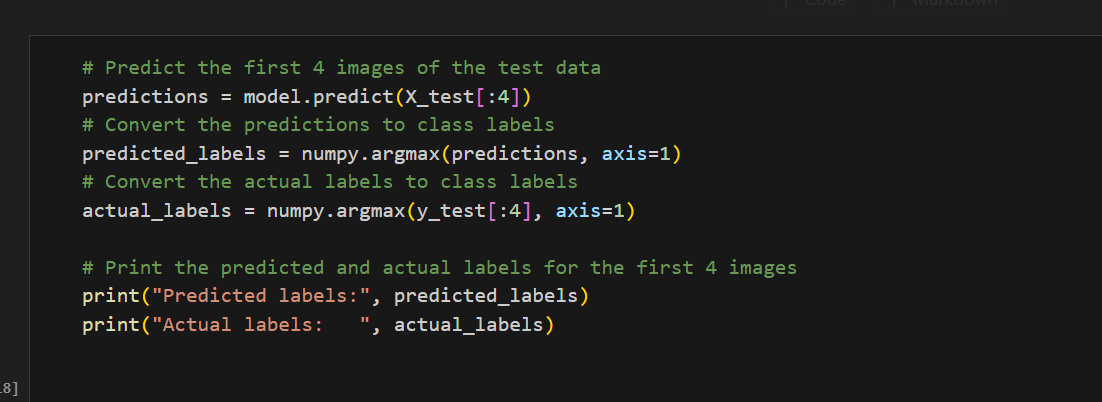
****

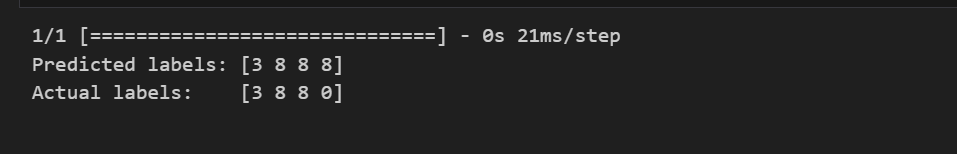
****

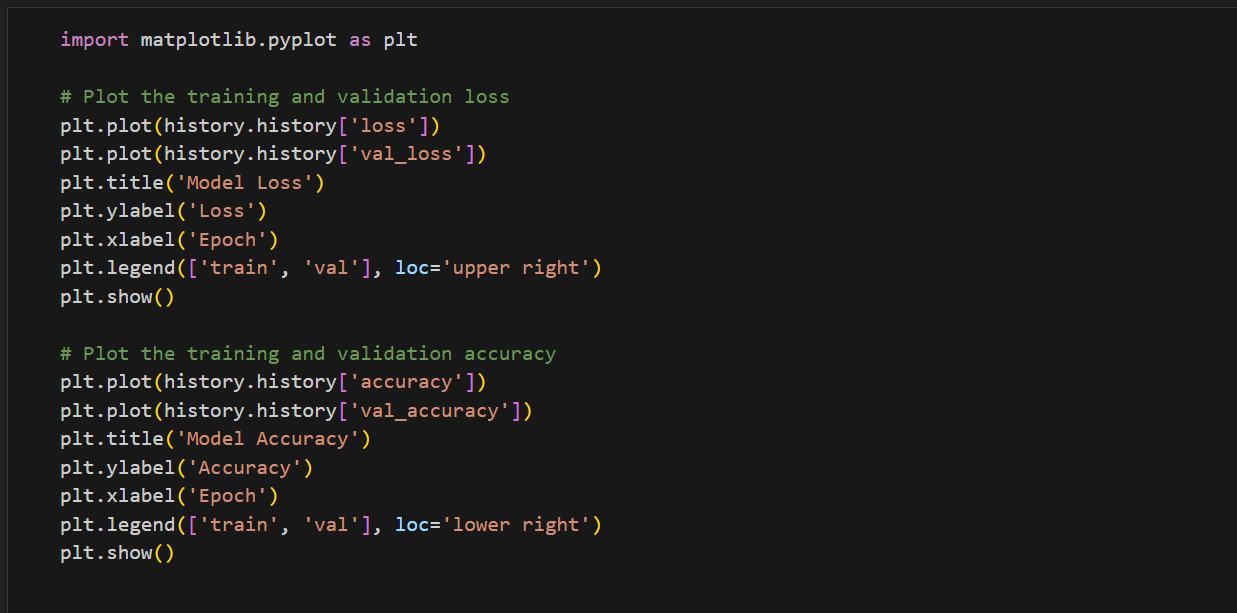
****

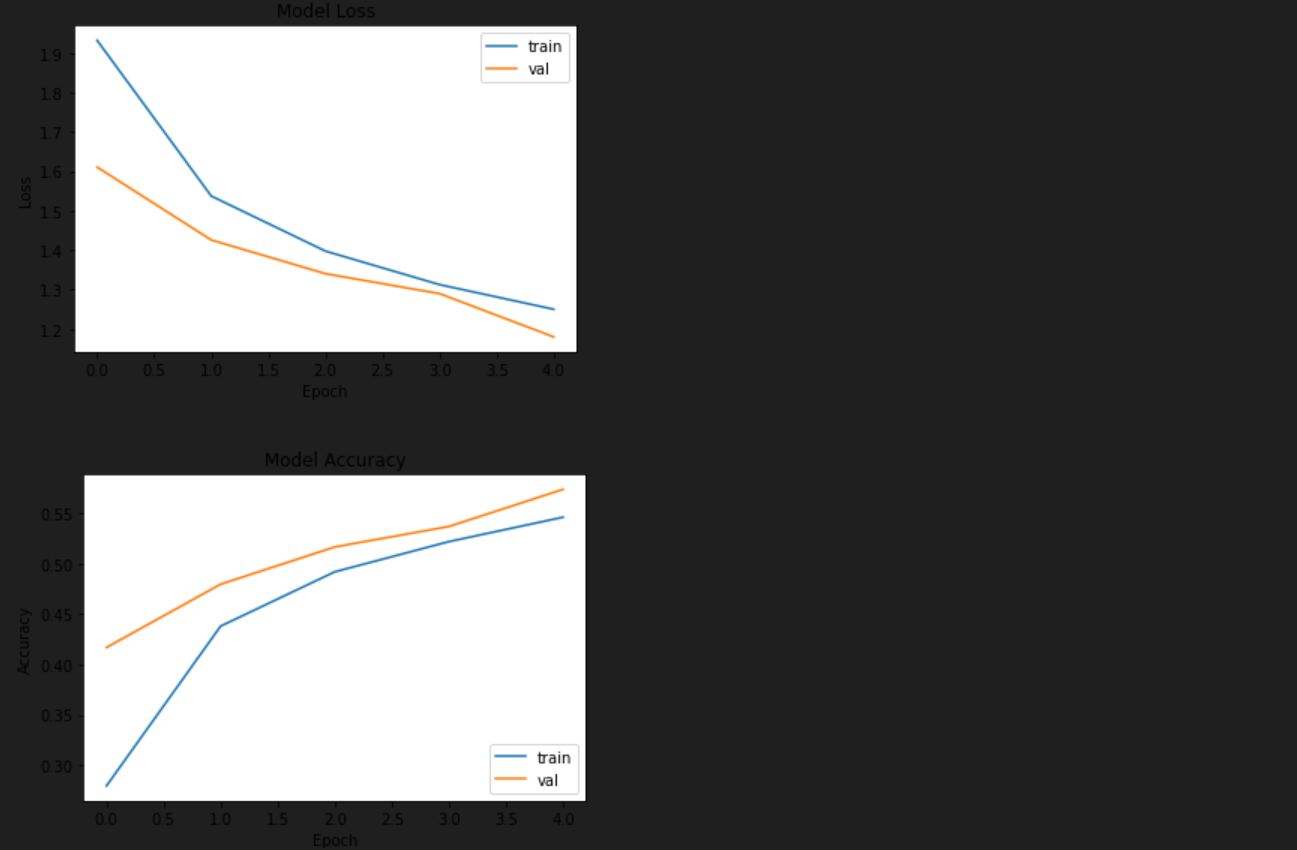
****

****

****

****

****

****