**CS5720 Neural Networks & Deep Learning - ICP-7**

**Assignment-7**

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GitHub Link:

**Use Case Description:**

**Image Classification with CNN**

**1. Training the model**

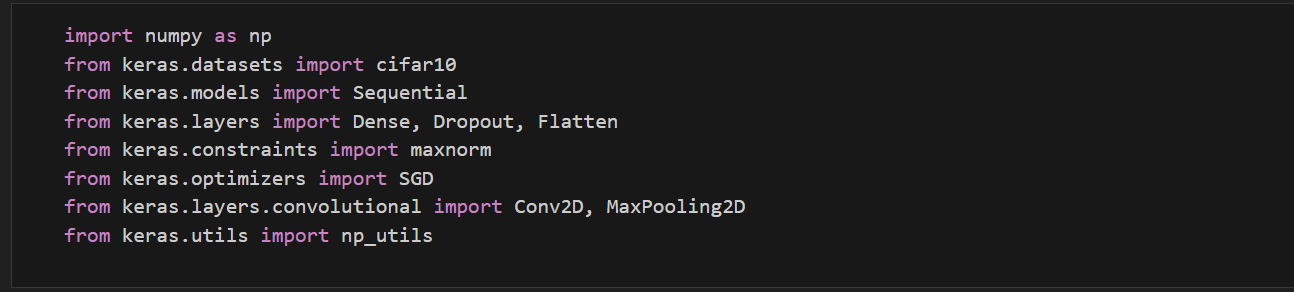
**2. Evaluating the model**

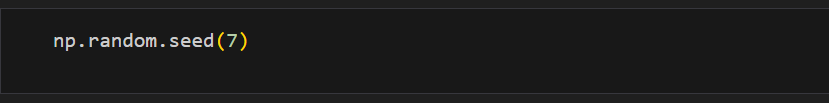
**In class programming:**

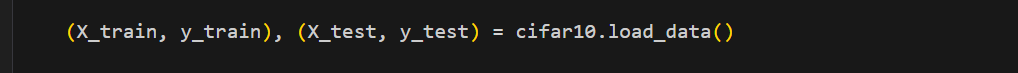
**1. Follow the instruction below and then report how the performance changed.(apply all at once) • Convolutional input layer, 32 feature maps with a size of 3×3 and a rectifier activation function. • Dropout layer at 20%. • Convolutional layer, 32 feature maps with a size of 3×3 and a rectifier activation 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?**

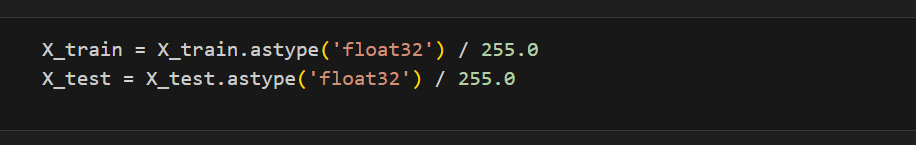
**2. Predict the first 4 images of the test data using the above model. Then, compare with the actual label for those 4 images to check whether the model has predicted correctly.**

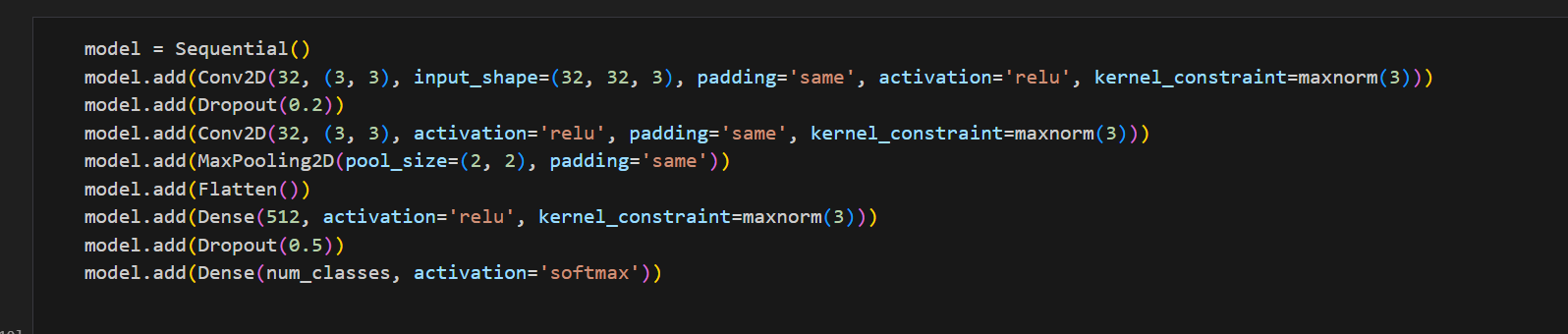
**3. Visualize Loss and Accuracy using the history object**

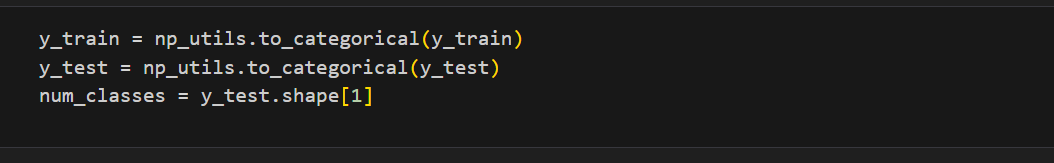
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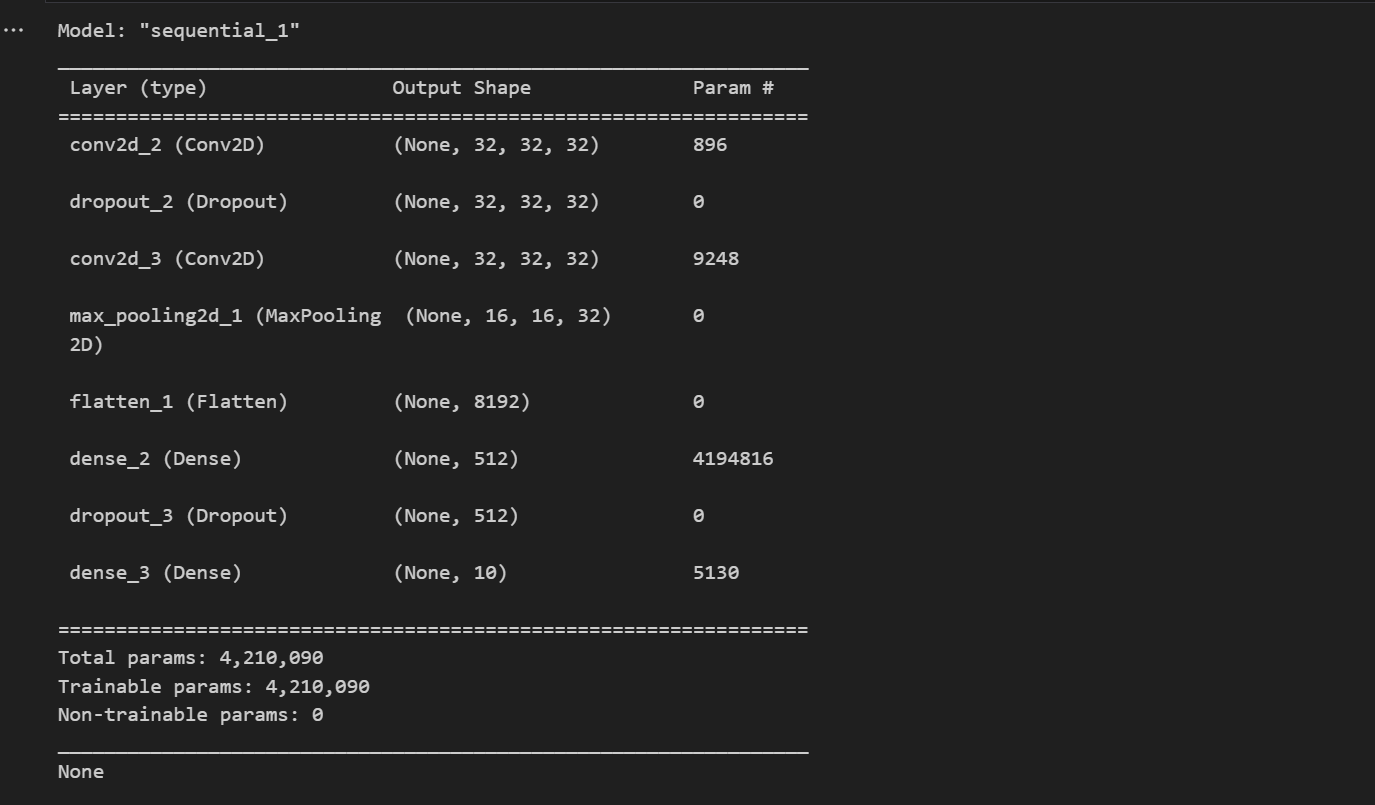
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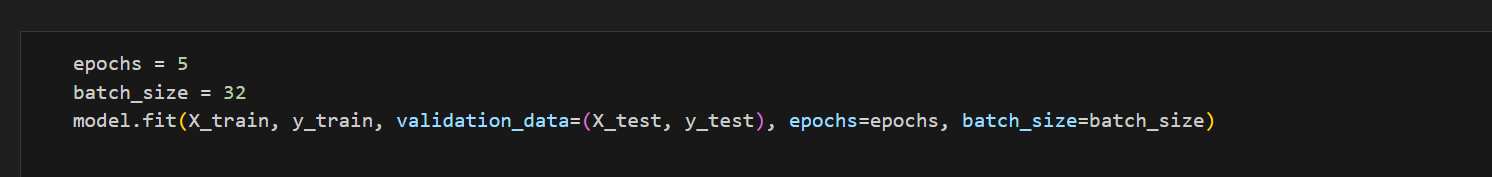
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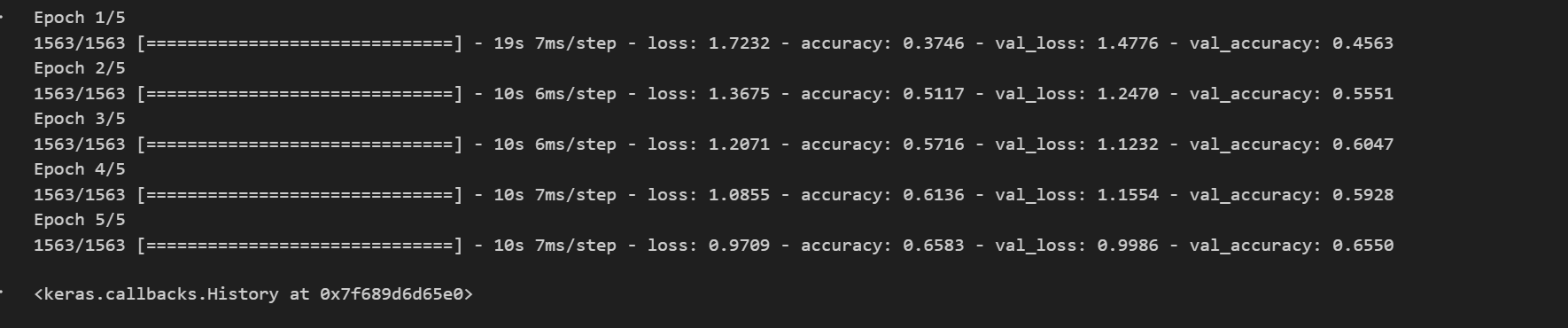
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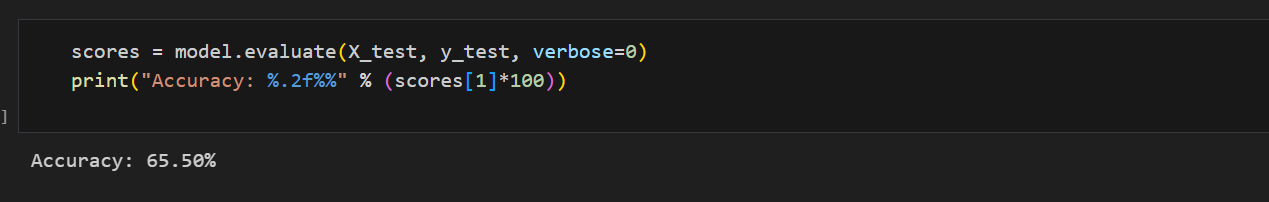
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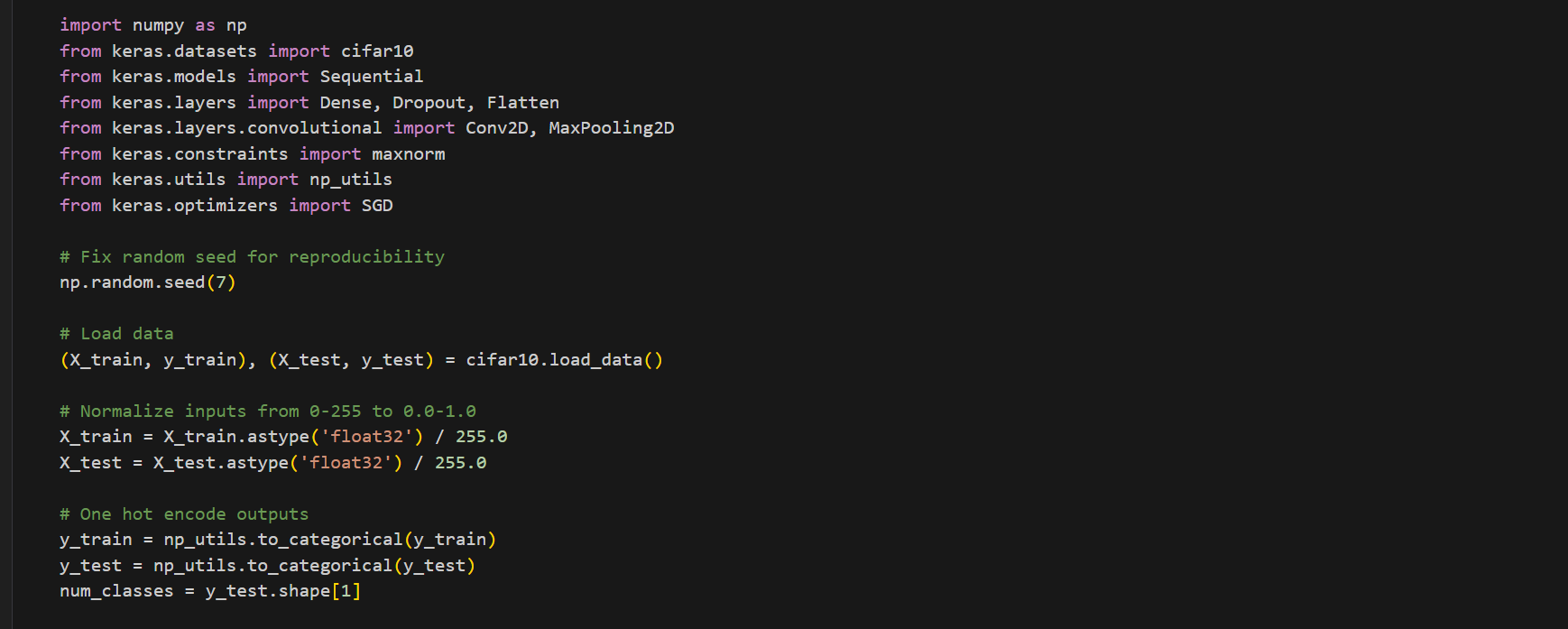
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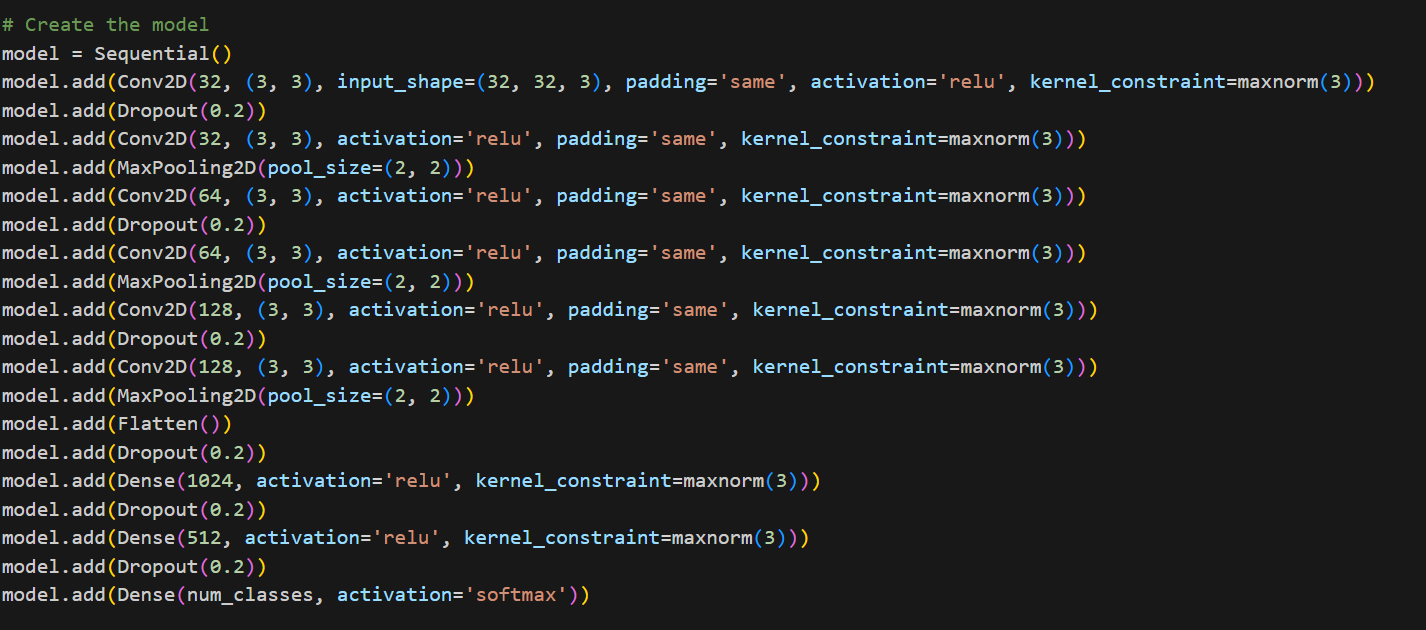
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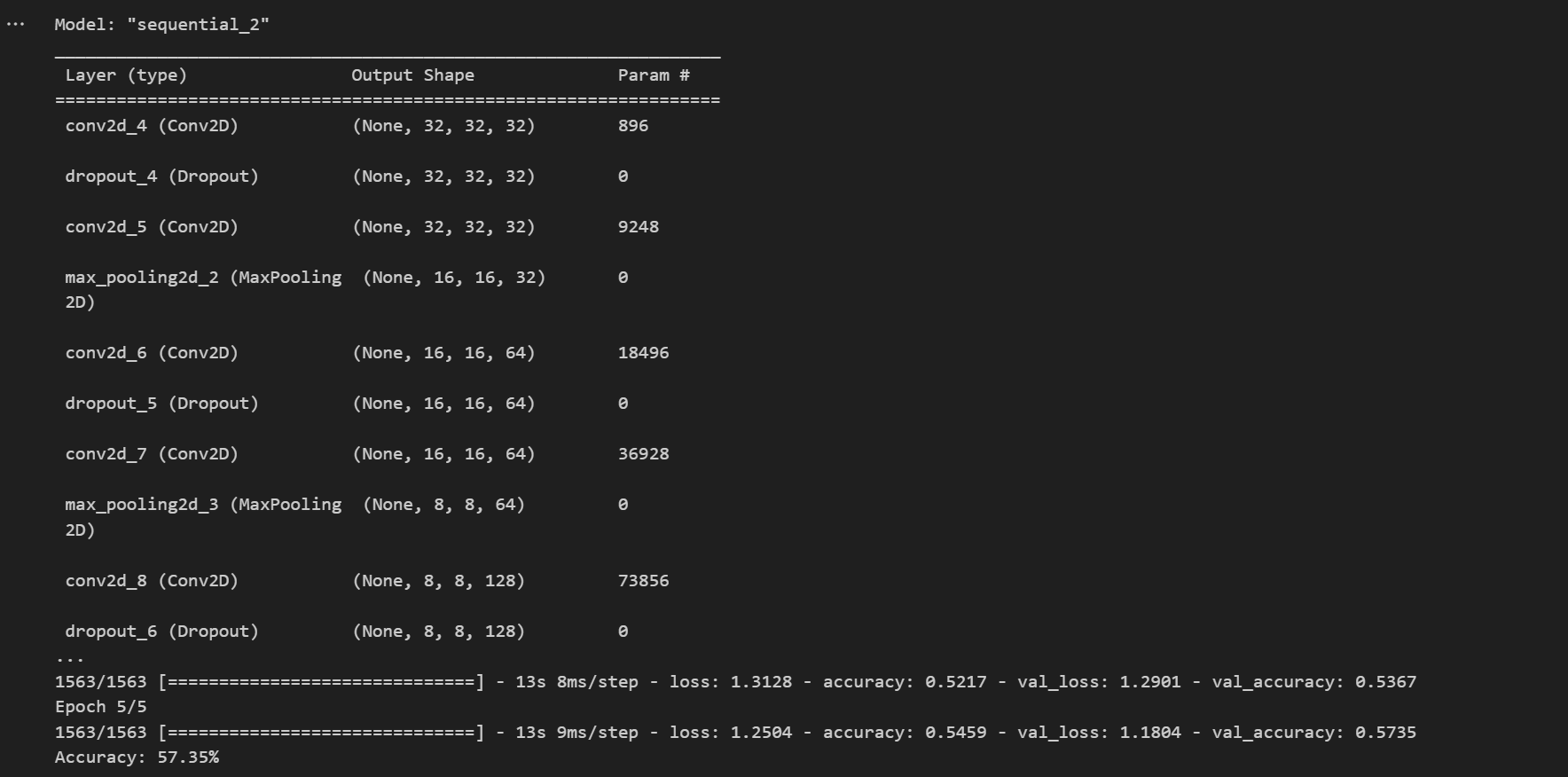
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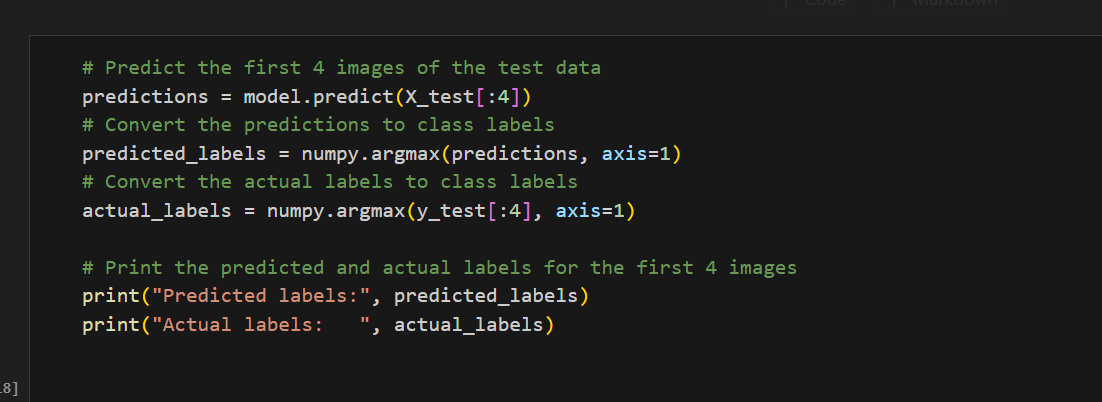
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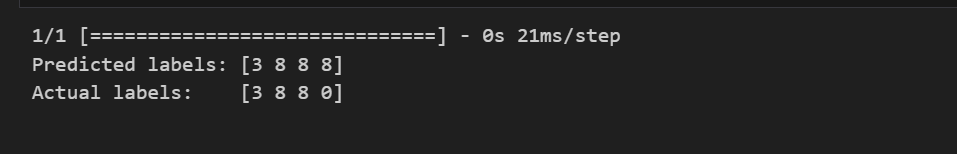
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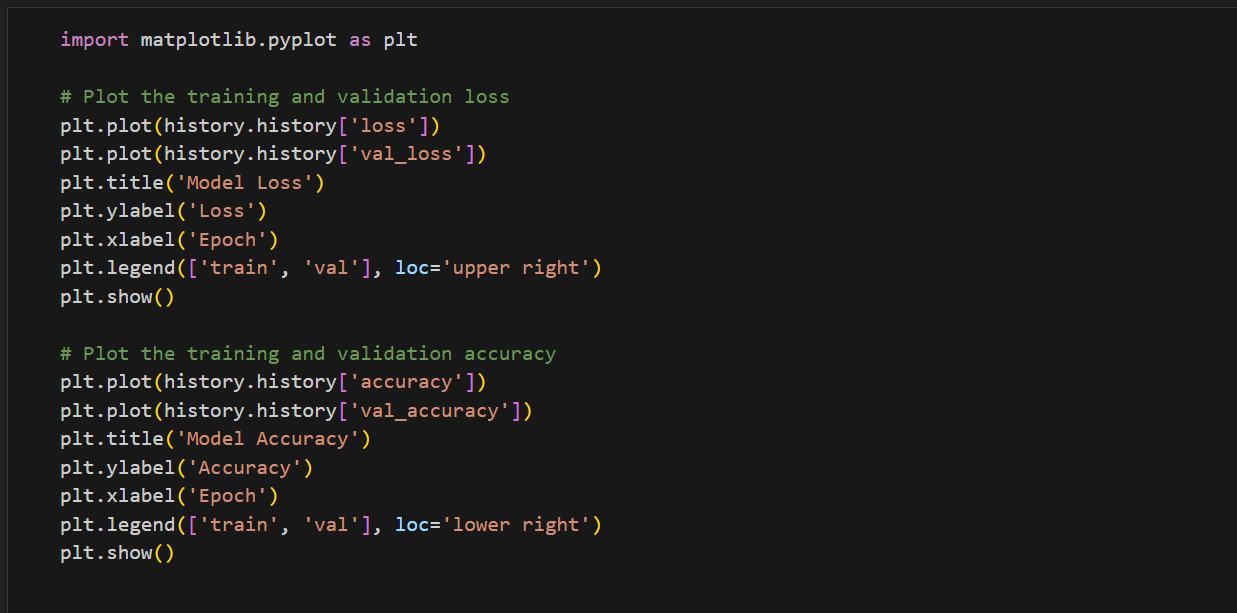
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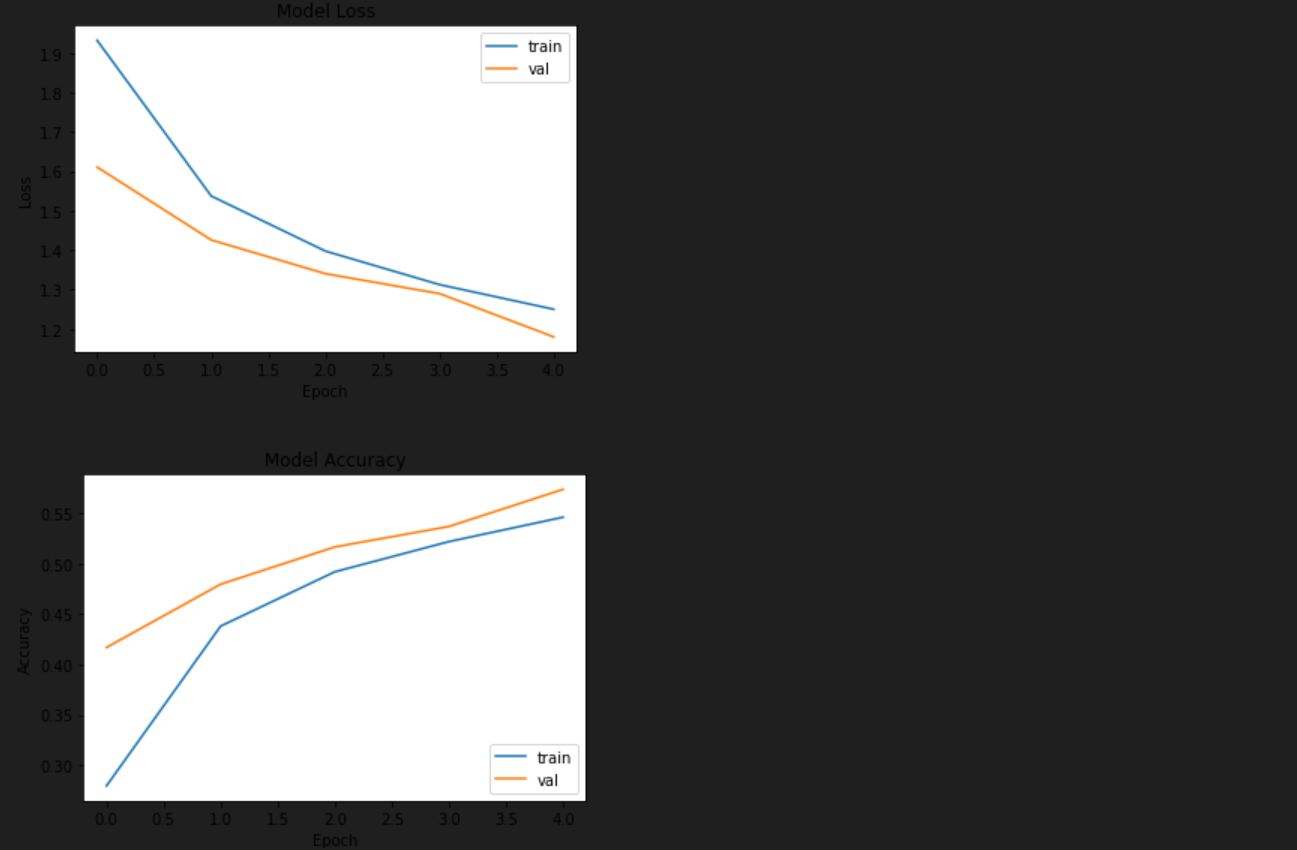
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