Shapes Classification

Let's try to predict class labels for some images. "dataset.zip" contains the training data (train/img_*.png) and the testing data (test/img_*.png). Class labels for the training data samples are given in "train_labels.csv". For the testing data, class labels are not given. In this task, accuracy is used as the evaluation metric. Please submit your prediction results and source code for the prediction in a zip file via e-mail. Please provide your solution as a Jupyter notebook. Note: Build your model with only the given data. Do not use any pre-trained models and do not use any images from other sources.

Output the predictions as a CSV file in the following format:

```
file_path,label
test/img_000.png,5
test/img_001.png,4
…
```

The source code should demonstrate the following steps:

- Data Analysis/Preprocessing
- Model Training
- Model Evaluation (Show how you evaluate models.)
- Prediction

We will be running your code on the provided training set and then testing prediction on an additional internal test set. So please ensure your model generalizes and your assignment can be easily reproduced and executed by reviewers. In addition to accuracy, we will also be looking at the entire task so factors like demonstrating your thinking process, coding practices, and communication skills are also important. Good luck!