When I first started this assignment, I was extremely nervous. I was diving into something completely different that I was not familiar with at all. I didn’t have any prior knowledge nor experience in the material nor have I ever even heard of these programs. Slowly that nervousness and fear turn into excitement, I knew I was here for a reason, and I wanted to learn as much as I could, so I got to work right away. The part that was the most difficult for me was figuring out the codes as well as trying to get the images up (it took me 2 hours to figure it out); I ended up having to go on ChatGPT as well as look over the material provided to us multiple times.

**Reflection on Learning**

1. Understanding of SVM: The Support Vector Machine (SVM) is a way to sort things into categories by finding the best line (or surface) that separates them, which helps in tasks like recognizing different types of images.

2. Data Preparation, Model Training, and Evaluation: Data preparation involved loading the CIFAR-10 dataset, converting images to grayscale (it took me awhile to actually get the images up, but I eventually figured it out), normalizing, and flattening them, followed by training the SVM and evaluating its performance.

3. Challenges and Insights: One challenge was dealing with the large size of the image data, which I solved by turning the images into long lists of numbers; this showed that SVM is good for simple tasks but may have trouble with more complex ones.

* The SVM algorithm is great for problems with a lot of features because it can quickly find the best way to separate different groups.
* Normalizing and flattening the data is important because it helps the SVM algorithm treat every pixel the same and makes the data easier to work with.
* Support vectors are the key points that help decide where the boundary is and how to separate the different categories.

**Visuals**

The images shown in the data visualization part showed different types of pictures from the CIFAR-10 dataset, helping to see how diverse the dataset is.

**Relevance of Visuals**

Each picture and result I looked at made it easier to understand how well the model was able to tell the different classes apart.