1.Resizing the images to 128 x 128 pixels for Haar-like features and 227 x 227 pixels for Deep Learned Features affect the quality of feature extraction compared to the smaller sizes used in Assignment 1?
2. Can you explain the rationale behind choosing the fc7 layer of AlexNet for extracting Deep Learned Features? How does this choice impact the subsequent classification performance?

Using Additional Training Data:
3. After incorporating the additional 30 training images for each class, did you observe a significant change in accuracy rates for both KNN and NN classifiers? How do you interpret these changes in relation to the original 25 training images?
4. Did the accuracy rates vary noticeably between Haar-like features and Deep Learned Features for both KNN and NN classifiers using the newly expanded training dataset?

Data Augmentation with Flipping:
5. What were the effects of data augmentation through flipping on the accuracy rates of the KNN and NN classifiers? Did the augmented dataset lead to improvements, and how would you explain these changes?
6. Did you observe any specific trends in how the accuracy rates changed with different values of K (1, 3, 5, 7, 9) after flipping the training images?

Feature Concatenation and Performance

7. How did the accuracy rates of the KNN classifier change when you concatenated the Haar-like features and Deep Learned Features for each training and testing image? Did this feature combination consistently enhance the classifier's performance across different K values?
8. What are the potential advantages and disadvantages of combining handcrafted features (Haar-like) with learned features (Deep Learned Features) in terms of overall classification accuracy and generalization to new data?

9. Based on your observations, which classifier (KNN or NN) and which set of features (Haar-like, Deep Learned, or concatenated) would you recommend as the most effective for this specific image classification task? Support your recommendation with relevant evidence from the accuracy rates.
10. How would you summarize the interplay between the factors of training data quantity, feature types, and classifier choice in influencing the overall accuracy rates? Are there any trade-offs or synergies that stand out from your analysis?
11. If you were to further improve the accuracy of the classification task, what additional strategies or techniques might you consider, based on the insights gained from these experiments?