說明：請各位使用此template進行Report撰寫，如果想要用其他排版模式也請註明題號以及題目內容（請勿擅自更改題號），最後上傳前，請務必轉成PDF檔，並且命名為report.pdf，否則將不予計分。

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學號： 系級： 姓名：

1. **(0.5%) CNN model**

(a) Paste the complete code of the CNN used in your submission.

(b) Describe the structure of your model:

* How many convolutional layers?
* Did you use batch normalization or dropout, are these useful to have better performance, explain why or why not ?
* How did you design or modify the output layer?

(c) If you used a pretrained model, answer:

Why did you choose this model?  
Did you freeze the backbone or fine-tune the entire network? Explain your decision.

1. **(1%) Data Augmentation**

(a) Paste the code for the data augmentation you implemented

(b) Explain the reasoning behind your chosen augmentation methods.

(c) Provide two sets of training/validation loss curves:

* With augmentation.
* Without augmentation.

(d) Compare and explain the differences between the two settings.

1. **(0.5%) Confusion Matrix**

(a) Paste the code used to generate the confusion matrix and include the resulting figure(confusion matrix).

(b) Analyze which classes are most frequently misclassified and explain possible reasons.