EXPERIMENT 5

```
Downloading data from https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
170498071/170498071 ━━━━━━━━━━━━━━━━━━━━ 4s 0us/step
Training data shape: (50000, 32, 32, 3)
Testing data shape: (10000, 32, 32, 3)
```


```
/tmp/ipython-input-3469876738.py:40: UserWarning: `input_shape` is undefined or non-square, or `rows` is not in [96, 128, 160, 192, 224]. Weights for input shape (2
  base_model = MobileNetV2(weights='imagenet', include_top=False, input_shape=(32,32,3))
Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/mobilenet_v2/mobilenet_v2_weights_tf_dim_ordering_tf_kernels_1.0_224_no_top.h5
9406464/9406464 ━━━━━━━━━━━━━━━━━━━━ 0s 0us/step
Model: "sequential"
```

Layer (type)	Output Shape	Param #
mobilenetv2_1.00_224 (Functional)	(None, 1, 1, 1280)	2,257,984
global_average_pooling2d (GlobalAveragePooling2D)	(None, 1280)	0
dropout (Dropout)	(None, 1280)	0
dense (Dense)	(None, 128)	163,968
dense_1 (Dense)	(None, 10)	1,290

```
 Total params: 2,423,242 (9.24 MB)
 Trainable params: 165,258 (645.54 KB)
 Non-trainable params: 2,257,984 (8.61 MB)
Epoch 1/5
704/704 ━━━━━━━━━━━━━━━━━━━━ 62s 79ms/step - accuracy: 0.1630 - loss: 2.2677 - val_accuracy: 0.2784 - val_loss: 2.1342
Epoch 2/5
704/704 ━━━━━━━━━━━━━━━━━━━━ 47s 66ms/step - accuracy: 0.2390 - loss: 2.1287 - val_accuracy: 0.3034 - val_loss: 2.0272
Epoch 3/5
704/704 ━━━━━━━━━━━━━━━━━━━━ 46s 66ms/step - accuracy: 0.2618 - loss: 2.0603 - val_accuracy: 0.3146 - val_loss: 1.9768
Epoch 4/5
704/704 ━━━━━━━━━━━━━━━━━━━━ 45s 63ms/step - accuracy: 0.2666 - loss: 2.0268 - val_accuracy: 0.3150 - val_loss: 1.9488
Epoch 5/5
704/704 ━━━━━━━━━━━━━━━━━━━━ 46s 65ms/step - accuracy: 0.2770 - loss: 2.0020 - val_accuracy: 0.3246 - val_loss: 1.9316
313/313 ━━━━━━━━━━━━━━━━━━━━ 13s 38ms/step
Classification Report:
              precision    recall  f1-score   support

    airplane       0.28      0.36      0.31      1000
  automobile       0.31      0.27      0.29      1000
        bird       0.31      0.13      0.18      1000
         cat       0.34      0.22      0.27      1000
        deer       0.37      0.40      0.38      1000
         dog       0.23      0.20      0.21      1000
        frog       0.39      0.38      0.39      1000
       horse       0.32      0.27      0.29      1000
        ship       0.30      0.38      0.33      1000
       truck       0.27      0.48      0.35      1000

    accuracy                           0.31     10000
   macro avg       0.31      0.31      0.30     10000
weighted avg       0.31      0.31      0.30     10000
```

truck	0.27	0.48	0.35	1000
accuracy			0.31	10000
macro avg	0.31	0.31	0.30	10000
weighted avg	0.31	0.31	0.30	10000