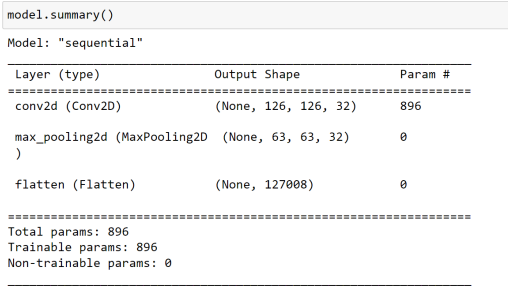
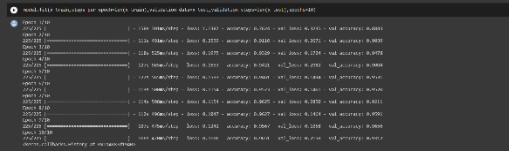


**Project Development
PhaseModel
Performance Test**

Date	12 November 2022
Team ID	PNT2022TMID04747
Project Name	Project - Fertilizers Recommendation System for Disease Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Total params: 896 Trainable params: 896 Non-trainable params: 0	 <pre> model.summary() Model: "sequential" Layer (type) Output Shape Param # ----- conv2d (Conv2D) (None, 126, 126, 32) 896 max_pooling2d (MaxPooling2D) (None, 63, 63, 32) 0 flatten (Flatten) (None, 127008) 0 Total params: 896 Trainable params: 896 Non-trainable params: 0 </pre>
2.	Accuracy	Training Accuracy – 96.51 Validation Accuracy – 93.12	 <pre> Epoch 100: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 101: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 102: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 103: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 104: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 105: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 106: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 107: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 108: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 109: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 110: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 111: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 112: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 113: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 114: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 115: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 116: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 117: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 118: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 119: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 Epoch 120: 100.0000 accuracy: 0.9651 - val: 0.9312 - val_accuracy: 0.9312 </pre>

Model Summary

```
model.summary()
```

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d (MaxPooling2D)	(None, 63, 63, 32)	0
flatten (Flatten)	(None, 127008)	0

=====
Total params: 896
Trainable params: 896
Non-trainable params: 0
=====

Accuracy

```
model.fit(x_train, steps_per_epoch=len(x_train), validation_data=x_test, validation_steps=len(x_test), epochs=10)
```

```
Epoch 1/10
225/225 [=====] - 158s 701ms/step - loss: 1.1387 - accuracy: 0.7624 - val_loss: 0.3235 - val_accuracy: 0.8843
Epoch 2/10
225/225 [=====] - 111s 491ms/step - loss: 0.2539 - accuracy: 0.9116 - val_loss: 0.2671 - val_accuracy: 0.9039
Epoch 3/10
225/225 [=====] - 118s 525ms/step - loss: 0.1975 - accuracy: 0.9329 - val_loss: 0.1724 - val_accuracy: 0.9478
Epoch 4/10
225/225 [=====] - 127s 565ms/step - loss: 0.1653 - accuracy: 0.9421 - val_loss: 0.2982 - val_accuracy: 0.9004
Epoch 5/10
225/225 [=====] - 127s 565ms/step - loss: 0.1533 - accuracy: 0.9461 - val_loss: 0.1494 - val_accuracy: 0.9531
Epoch 6/10
225/225 [=====] - 113s 500ms/step - loss: 0.1154 - accuracy: 0.9573 - val_loss: 0.1461 - val_accuracy: 0.9520
Epoch 7/10
225/225 [=====] - 114s 508ms/step - loss: 0.1154 - accuracy: 0.9625 - val_loss: 0.2850 - val_accuracy: 0.9211
Epoch 8/10
225/225 [=====] - 112s 496ms/step - loss: 0.1047 - accuracy: 0.9627 - val_loss: 0.1464 - val_accuracy: 0.9591
Epoch 9/10
225/225 [=====] - 107s 475ms/step - loss: 0.1242 - accuracy: 0.9567 - val_loss: 0.1058 - val_accuracy: 0.9656
Epoch 10/10
225/225 [=====] - 106s 470ms/step - loss: 0.1006 - accuracy: 0.9651 - val_loss: 0.2158 - val_accuracy: 0.9312
<keras.callbacks.History at 0x1a4887d1940>
```