**Project Development**
**Phase Model**
**Performance Test**

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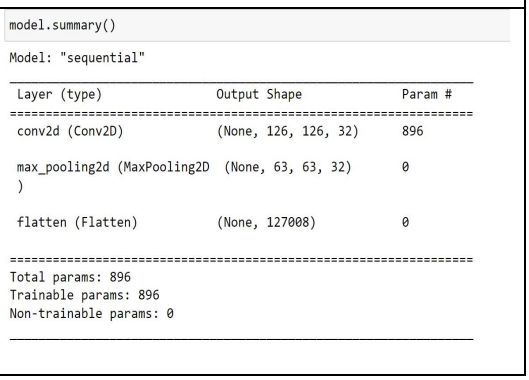
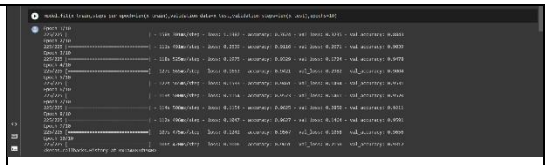
|---|---|
| Date | 24 November 2022 |
| Team ID | PNT2022TMID42619 |
| Project Name | Fertilizers Recommendation System for Disease Prediction |
| Maximum Marks | 10 Marks |

**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<br>Trainable params: 896<br>Non-trainable params: 0 |  |

| | | | |
|---|---|---|---|
| 2. | Accuracy | Training Accuracy – 96.51<br><br>Validation Accuracy – 93.12 |  |

## Model Summary

```
model.summary()
```

```
Model: "sequential"
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 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
_________________________________________________________________
```
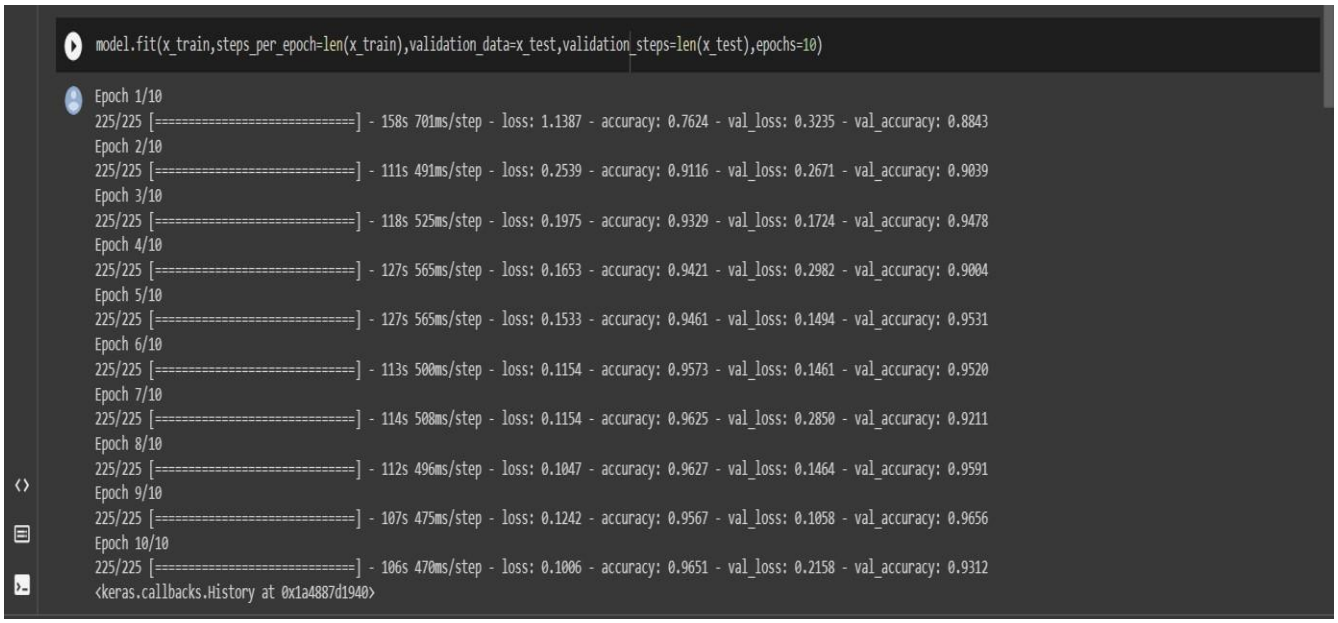

## Accuracy



```
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>
```