## Project Development Phase
## Model Performance Test

| Date | 19 November 2022 |
|---|---|
| Team ID | PNT2022TMID38182 |
| 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<br>Trainable params: 896<br>Non-trainable params: 0 |  |
| 2. | Accuracy | Training Accuracy – 96.55<br><br>Validation Accuracy – 97.45 |  |

# Model Summary

```python
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_generator(x_train,steps_per_epoch=len(x_train),validation_data=x_test,validation_steps=len(x_test),epochs=10)
```

C:\Users\Sree Ram\AppData\Local\Temp\ipykernel_13228\1582812018.py:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which supports generators.
  model.fit_generator(x_train,steps_per_epoch=len(x_train),validation_data=x_test,validation_steps=len(x_test),epochs=10)

```
Epoch 1/10
225/225 [==============================] - 96s 425ms/step - loss: 1.1095 - accuracy: 0.7829 - val_loss: 0.3157 - val_accuracy:
0.8861
Epoch 2/10
225/225 [==============================] - 88s 393ms/step - loss: 0.2825 - accuracy: 0.9042 - val_loss: 0.3015 - val_accuracy:
0.9075
Epoch 3/10
225/225 [==============================] - 85s 375ms/step - loss: 0.2032 - accuracy: 0.9303 - val_loss: 0.2203 - val_accuracy:
0.9288
Epoch 4/10
225/225 [==============================] - 84s 374ms/step - loss: 0.1576 - accuracy: 0.9463 - val_loss: 0.2424 - val_accuracy:
0.9164
Epoch 5/10
225/225 [==============================] - 84s 372ms/step - loss: 0.1719 - accuracy: 0.9389 - val_loss: 0.1330 - val_accuracy:
0.9632
Epoch 6/10
225/225 [==============================] - 85s 376ms/step - loss: 0.1240 - accuracy: 0.9580 - val_loss: 0.1340 - val_accuracy:
0.9573
Epoch 7/10
225/225 [==============================] - 87s 388ms/step - loss: 0.1235 - accuracy: 0.9591 - val_loss: 0.1638 - val_accuracy:
0.9478
Epoch 8/10
225/225 [==============================] - 83s 371ms/step - loss: 0.1012 - accuracy: 0.9643 - val_loss: 0.1468 - val_accuracy:
0.9561
Epoch 9/10
225/225 [==============================] - 83s 367ms/step - loss: 0.0967 - accuracy: 0.9655 - val_loss: 0.1412 - val_accuracy:
0.9531
Epoch 10/10
225/225 [==============================] - 83s 369ms/step - loss: 0.0954 - accuracy: 0.9655 - val_loss: 0.0905 - val_accuracy:
0.9745
```