Development phase of the project
Project Name: Diabetes prediction using machine learning
Maximum marks: 10 marks

Team ID : Team-591879

Model Performance Testing:

1) Parameters: Metrics

Classification Model: confusion Matrix, Accuracy Score and Classification Report:

```
Best parameters: {'n_estimators': 100, 'min_samples_split': 3, 'min_samp
Best cross-validation score: 0.92
Test set accuracy: 0.93

Confusion Matrix:
[[40821    10  1857]
 [  807 41270   599]
 [ 4985   805 37068]]

Classification Report:
              precision    recall  f1-score   support

         0.0       0.88      0.96      0.91     42688
         1.0       0.98      0.97      0.97     42676
         2.0       0.94      0.86      0.90     42858

    accuracy                           0.93    128222
   macro avg       0.93      0.93      0.93    128222
weighted avg       0.93      0.93      0.93    128222
```

2)
Tuning the model using Hyperparameter, Tuning- Validation method-

```
Testing Accuracy =  0.93088549546879 63
Training Accuracy =  0.99720991173494 36
```

```
Mean Accuracy: 0.9318415433177437
Standard Deviation of Accuracy: 0.0005816098448275476
```