Final Model Analysis

We have used below regression algorithms to predict the mobile prices

1. Decision Tree
2. Adaboost
3. LGBoost
4. XGBoost
5. Random Forest
6. Support Vector Machine

Below are the best params and best score of each algorithms

1. Decision Tree

```
[25]: grid.best_params_

[25]: {'criterion': 'friedman_mse', 'max_features': 'log2', 'splitter': 'random'}

[26]: grid.best_score_

[26]: 0.8261049785326133
```

2. LGBoost:

```
[17]: grid.best_params_

[17]: {'max_depth': 4, 'num_leaves': 10}

[18]: grid.best_score_

[18]: 0.8395132419530105
```

3.XGBoost:

```
grid.best_params_

{'learning_rate': 0.1, 'max_depth': 3, 'n_estimators': 100}

[19]: grid.best_score_

[19]: 0.8902720594674864
```

4. Support Vector Machine:

```
[14]: grid.best_params_

[14]: {'C': 1000, 'coef0': 1.0, 'gamma': 'scale', 'kernel': 'poly'}

[17]: grid.best_score_

[17]: 0.7641514469246123
```

5. AdaBoost:

[18]:
```
grid.best_params_
```

[18]:
```
{'learning_rate': 1.0, 'loss': 'square', 'n_estimators': 100}
```

[19]:
```
grid.best_score_
```

[19]:
```
0.8863088978420993
```

6. Random Forest:

```
grid.best_params_
```

```
{'criterion': 'poisson', 'max_features': 'sqrt', 'n_estimators': 100}
```

```
grid.best_score_
```

```
0.912914123632571
```

As per the above result, random_forest gives best score i.e 91%

We can choose this model as final model