

EXPERIMENT – 17

Implement Mobile Price Prediction using appropriate machine learning algorithm

CODE :

```
# Mobile Price Prediction using Linear Regression

import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_absolute_error, mean_squared_error, r2_score

# Sample dataset
data = {
    "RAM_GB": [2, 4, 3, 6, 8, 4, 12, 16],
    "Storage_GB": [16, 32, 64, 128, 256, 64, 128, 512],
    "Battery_mAh": [3000, 3500, 3200, 4000, 4500, 3700, 5000, 6000],
    "Camera_MP": [8, 12, 13, 16, 20, 12, 48, 108],
    "Price": [10000, 15000, 12000, 20000, 25000, 18000, 40000, 70000]
}

df = pd.DataFrame(data)

# Features and target
X = df[["RAM_GB", "Storage_GB", "Battery_mAh", "Camera_MP"]]
y = df["Price"]

# Train-test split
X_train, X_test, y_train, y_test = train_test_split(
    X, y, test_size=0.25, random_state=42
)

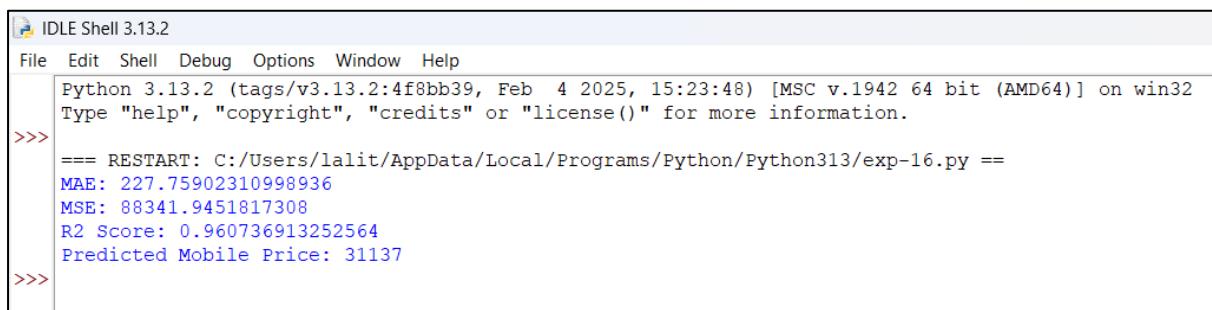
# Model
model = LinearRegression()
model.fit(X_train, y_train)

# Prediction
y_pred = model.predict(X_test)
# Evaluation
print("MAE:", mean_absolute_error(y_test, y_pred))
print("MSE:", mean_squared_error(y_test, y_pred))
print("R2 Score:", r2_score(y_test, y_pred))
```

```
# Predict price of a new mobile
new_mobile = pd.DataFrame(
    [[8, 128, 4000, 48]],
    columns=["RAM_GB", "Storage_GB", "Battery_mAh", "Camera_MP"]
)

predicted_price = model.predict(new_mobile)
print("Predicted Mobile Price:", int(predicted_price[0]))
```

OUTPUT :



The screenshot shows the IDLE Shell interface with the following content:

```
File Edit Shell Debug Options Window Help
Python 3.13.2 (tags/v3.13.2:4f8bb39, Feb 4 2025, 15:23:48) [MSC v.1942 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> === RESTART: C:/Users/lalit/AppData/Local/Programs/Python/Python313/exp-16.py ==
MAE: 227.75902310998936
MSE: 88341.9451817308
R2 Score: 0.960736913252564
Predicted Mobile Price: 31137
>>>
```