EXPERIMENT – 12

Implement Iris Flower Classification using KNN

CODE :

```
# Car 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 = {
    "Year": [2015, 2018, 2016, 2020, 2014, 2019, 2017, 2021],
    "Mileage": [60000, 30000, 50000, 20000, 80000, 25000, 45000, 15000],
    "Engine_CC": [1200, 1500, 1300, 1800, 1100, 1600, 1400, 2000],
    "Price": [500000, 800000, 600000, 1200000, 400000, 900000, 650000, 1400000]
}

df = pd.DataFrame(data)

# Features and target
X = df[["Year", "Mileage", "Engine_CC"]]
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)

# Output
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 car
new_car = pd.DataFrame(
    [[2022, 10000, 1800]],
    columns=["Year", "Mileage", "Engine_CC"]
)
predicted_price = model.predict(new_car)
print("Predicted Car Price:", int(predicted_price[0]))
```

OUTPUT :