


```
# Google Drive'ni ulash
from google.colab import drive
drive.mount('/content/drive')
```

 Mounted at /content/drive

```
# 1. Kerakli kutubxonalarni chaqiramiz
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error, r2_score
```

```
# 2. Excel faylni yuklash (Google Drive ulanayotgan bo'lishi kerak)
df = pd.read_excel('/content/drive/MyDrive/newcars.xlsx')
df.head(20)
```



	company	body-style	price
0	alfa-romero	convertible	13495.0
1	alfa-romero	convertible	16500.0
2	alfa-romero	hatchback	16500.0
3	audi	sedan	13950.0
4	audi	sedan	17450.0
5	audi	sedan	15250.0
6	audi	wagon	18920.0
7	bmw	sedan	16430.0
8	bmw	sedan	16925.0
9	bmw	sedan	20970.0
10	bmw	sedan	30760.0
11	bmw	sedan	41315.0
12	bmw	sedan	36880.0
13	chevrolet	hatchback	5151.0
14	chevrolet	hatchback	6295.0
15	chevrolet	sedan	6575.0
16	dodge	hatchback	6377.0
17	dodge	hatchback	6229.0
18	honda	wagon	7295.0
19	honda	sedan	12945.0



Далее:

[Создать код с переменной df](#)[Посмотреть рекомендованные графики](#)[New intera](#)

```
# 3. Narx ustunida bo'sh qiymatlar bo'lsa, ularni olib tashlaymiz
df.dropna(subset=['price'], inplace=True)
```

```
# 4. Categorical ustunlarni One-Hot Encoding qilish
df_encoded = pd.get_dummies(df, columns=['company', 'body-style'], drop_first=True)
```

```
# 5. Mustaqil va bog'liq o'zgaruvchilarni ajratamiz
X = df_encoded.drop('price', axis=1)
y = df_encoded['price']
```

```
# 6. Ma'lumotlarni train va test ga ajratamiz
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_s

# 7. Chiziqli regressiya modelini yaratib o'rgatamiz
model = LinearRegression()
model.fit(X_train, y_train)
```



▼ LinearRegression ⓘ ?

LinearRegression()

```
# 8. Bashorat va baholash
y_pred = model.predict(X_test)
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)

# 9. Vizualizatsiya: haqiqiy vs bashorat qilingan qiymatlar
plt.figure(figsize=(8,6))
sns.scatterplot(x=y_test, y=y_pred)
plt.xlabel("Haqiqiy narx")
plt.ylabel("Bashorat narx")
plt.title("Haqiqiy va Bashorat Qilingan Narxlar")
plt.plot([y_test.min(), y_test.max()], [y_test.min(), y_test.max()], 'r--')
plt.grid(True)
plt.show()
```



Haqiqiy va Bashorat Qilingan Narxlar



```
!pip install python-docx
```



```
Collecting python-docx
  Downloading python_docx-1.1.2-py3-none-any.whl.metadata (2.0 kB)
Requirement already satisfied: lxml>=3.1.0 in /usr/local/lib/python3.11/dist-packages (from python-docx)
Requirement already satisfied: typing-extensions>=4.9.0 in /usr/local/lib/python3.11/dist-packages (from python-docx)
  Downloading python_docx-1.1.2-py3-none-any.whl (244 kB)
Installing collected packages: python-docx
Successfully installed python-docx-1.1.2
```

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```
from docx import Document
# 10. DOCX hisobotni yaratish va saqlash
doc = Document()
doc.add_heading('Avtomobil Narxlarini Bashorat Qilish Hisoboti', 0)

doc.add_paragraph('1. Excel fayldan ma'lumotlar yuklandi.')
doc.add_paragraph('2. Kategorik ustunlar kodlandi (One-Hot Encoding).')
doc.add_paragraph('3. Chiziqli regressiya modeli qurildi.')
doc.add_paragraph(f'4. Mean Squared Error (MSE): {mse:.2f}')
doc.add_paragraph(f'5. R2 score: {r2:.2f}')
doc.add_paragraph('6. Xulosa: Model asosiy xususiyatlar bo'yicha avtomobil narxini
```