

```
import pandas as pd

df = pd.read_csv("sample_data")
df.head()

-----
IsADirectoryError                                 Traceback (most recent call last)
/tmp/ipython-input-3694410791.py in <cell line: 0>()
      1 import pandas as pd
      2
----> 3 df = pd.read_csv("sample_data")
      4 df.head()

_____| 4 frames |
/usr/local/lib/python3.12/dist-packages/pandas/io/common.py in get_handle(path_or_buf, mode, encoding, compression, memory_map, is_text, errors, storage_options)
    871         if ioargs.encoding and "b" not in ioargs.mode:
    872             # Encoding
--> 873             handle = open(
    874                 handle,
    875                 ioargs.mode,
IsADirectoryError: [Errno 21] Is a directory: 'sample_data'
```

Next steps: [Explain error](#)

```
from google.colab import files
uploaded = files.upload()
```

Choose Files | car data.csv  
car data.csv(text/csv) - 17210 bytes, last modified: 11/13/2025 - 100% done  
Saving car data.csv to car data (1).csv

```
import pandas as pd

df = pd.read_csv("car data.csv")
df.head()
```

	Car_Name	Year	Selling_Price	Present_Price	Driven_kms	Fuel_Type	Selling_type	Transmission	Owner	grid icon
0	ritz	2014	3.35	5.59	27000	Petrol	Dealer	Manual	0	info icon
1	sx4	2013	4.75	9.54	43000	Diesel	Dealer	Manual	0	
2	ciaz	2017	7.25	9.85	6900	Petrol	Dealer	Manual	0	
3	wagon r	2011	2.85	4.15	5200	Petrol	Dealer	Manual	0	
4	swift	2014	4.60	6.87	42450	Diesel	Dealer	Manual	0	

Next steps: [Generate code with df](#) [New interactive sheet](#)

```
df.info()
df.describe()
df.isnull().sum()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 301 entries, 0 to 300
Data columns (total 9 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   Car_Name         301 non-null    object  
 1   Year             301 non-null    int64   
 2   Selling_Price    301 non-null    float64 
 3   Present_Price   301 non-null    float64 
 4   Driven_kms      301 non-null    int64   
 5   Fuel_Type        301 non-null    object  
 6   Selling_type     301 non-null    object  
 7   Transmission     301 non-null    object  
 8   Owner            301 non-null    int64   
dtypes: float64(2), int64(3), object(4)
memory usage: 21.3+ KB
```

```
X = df.drop(['Selling_Price'], axis=1)
y = df['Selling_Price']
```

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

```
from sklearn.ensemble import RandomForestRegressor
model = RandomForestRegressor()
model.fit(X_train, y_train)
```

```
from sklearn.ensemble import RandomForestRegressor
model = RandomForestRegressor(random_state=42)
model.fit(X_train, y_train)
```

```
from sklearn.metrics import r2_score, mean_absolute_error
# টেস্ট ডেটা দিয়ে প্রেডিকশন করো
y_pred = model.predict(X_test)

# Accuracy মাপো
print("R2 Score:", r2_score(y_test, y_pred))
print("Mean Absolute Error:", mean_absolute_error(y_test, y_pred))
```

```
R2 Score: 0.9630473458807466
Mean Absolute Error: 0.6171081967213115
```

```
import pandas as pd
import matplotlib.pyplot as plt

importance = model.feature_importances_
features = pd.DataFrame({'Feature': X.columns, 'Importance': importance})
features = features.sort_values(by='Importance', ascending=False)

plt.bar(features['Feature'], features['Importance'])
plt.xlabel("Features")
plt.ylabel("Importance")
plt.title("Feature Importance in Car Price Prediction")
plt.show()
```

