```
import pandas as pd
import numpy as np


import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.linear_model import LinearRegression,Lasso
from sklearn.metrics import mean_squared_error,r2_score
from sklearn.model_selection import train_test_split



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

Choose Files car_age_price.csv

- **car_age_price.csv**(text/csv) - 1356 bytes, last modified: 5/31/2025 - 100% done

Saving car_age_price.csv to car_age_price.csv

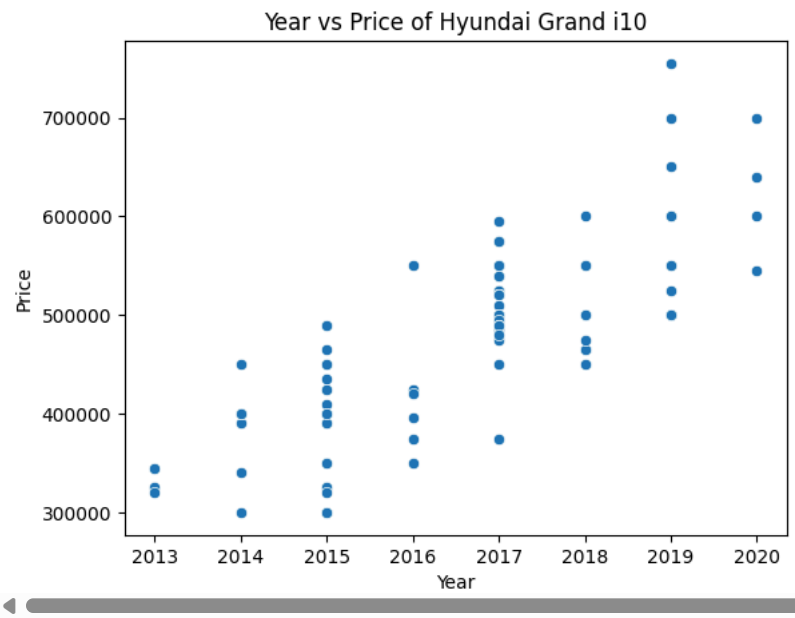
```
df = pd.read_csv('car_age_price.csv')


df.head()
```

	Year	Price
0	2018	465000
1	2019	755000
2	2019	700000
3	2018	465000
4	2018	465000

Next steps: Generate code with df | View recommended plots | New interactive sheet

```
sns.scatterplot(data=df, x='Year', y='Price')
plt.title("Year vs Price of Hyundai Grand i10")
plt.show()
```




```
x = df[['Year']]
y = df[['Price']]


X_train, X_test, y_train, y_test = train_test_split(x, y, test_size=0.2, random_state=42)
```

```
lr_model = LinearRegression()
lr_model.fit(X_train, y_train)
```

```
▸ LinearRegression
```

```
lr_preds = lr_model.predict(X_test)
mse = mean_squared_error(y_test, lr_preds)
lr_rmse = np.sqrt(mse)
lr_r2 = r2_score(y_test, lr_preds)
```

```
lasso_model = Lasso(alpha=1.0)
lasso_model.fit(X_train, y_train)
```

```
▾ Lasso
Lasso()
```

```
lasso_preds = lasso_model.predict(X_test)
lasso_mse = mean_squared_error(y_test, lasso_preds)
lasso_rmse = np.sqrt(lasso_mse)
lasso_r2 = r2_score(y_test, lasso_preds)
```

```
print("Linear Regression RMSE:", lr_rmse)
print("Linear Regression R²:", lr_r2)
print("Lasso Regression RMSE:", lasso_rmse)
print("Lasso Regression R²:", lasso_r2)
```

```
Linear Regression RMSE: 65779.22359552195
Linear Regression R²: 0.36759313425902185
Lasso Regression RMSE: 65778.8702473345
Lasso Regression R²: 0.3675999284778446
```

```
year_2022 = pd.DataFrame({'Year': [2022]})
lr_price_2022 = lr_model.predict(year_2022)[0]
lasso_price_2022 = lasso_model.predict(year_2022)[0]
```

```
lr_price_2022 = lr_model.predict(year_2022)[0].item()
lasso_price_2022 = lasso_model.predict(year_2022)[0].item()
print(f"\nPredicted price for 2022 model using Linear Regression: ₹{lr_price_2022:.2f}")
print(f"Predicted price for 2022 model using Lasso Regression: ₹{lasso_price_2022:.2f}")
```

```

Predicted price for 2022 model using Linear Regression: ₹743601.62
Predicted price for 2022 model using Lasso Regression: ₹743599.37
```

```
better_model = "Linear Regression" if lr_rmse < lasso_rmse else "Lasso Regression"
print(f"\nBetter performing model: {better_model}")
```

```

Better performing model: Lasso Regression
```