```python
In [14]:
# Import libraries
import pandas as pd
import numpy as np
from sklearn.linear_model import LinearRegression
import matplotlib.pyplot as plt
```

```python
In [15]:
# Create a DataFrame with house sizes and prices
data = {'Size (sq ft)': [1400, 1600, 1700, 1875, 1100],
        'Price ($)': [245000, 312000, 279000, 308000, 199000]}
df = pd.DataFrame(data)
```

```python
In [16]:
# Create a linear regression model
model = LinearRegression()
```

```python
In [17]:
# Fit the model to predict prices based on sizes
model.fit(df[['Size (sq ft)']], df['Price ($)'])
```

Out[17]:

```
▼ LinearRegression

LinearRegression()
```

```python
In [18]:
# Predict the price for a new house size
new_size = 1500
predicted_price = model.predict([[new_size]])[0]
```

```
C:\Users\EZY 1\AppData\Local\Programs\Python\Python311\Lib\site-packages\sklearn\ba
se.py:465: UserWarning: X does not have valid feature names, but LinearRegression w
as fitted with feature names
  warnings.warn(
```

```python
In [19]:
# Plot the data points and the regression line
plt.scatter(df['Size (sq ft)'], df['Price ($)'], color='red', marker='+', label='Da
plt.plot(df[['Size (sq ft)']], model.predict(df[['Size (sq ft)']]), color='blue', l
plt.xlabel('Size (sq ft)')
plt.ylabel('Price ($)')
plt.title('Linear Regression: House Prices vs. Size')
plt.legend()
plt.grid(True)
```

Linear Regression: House Prices vs. Size
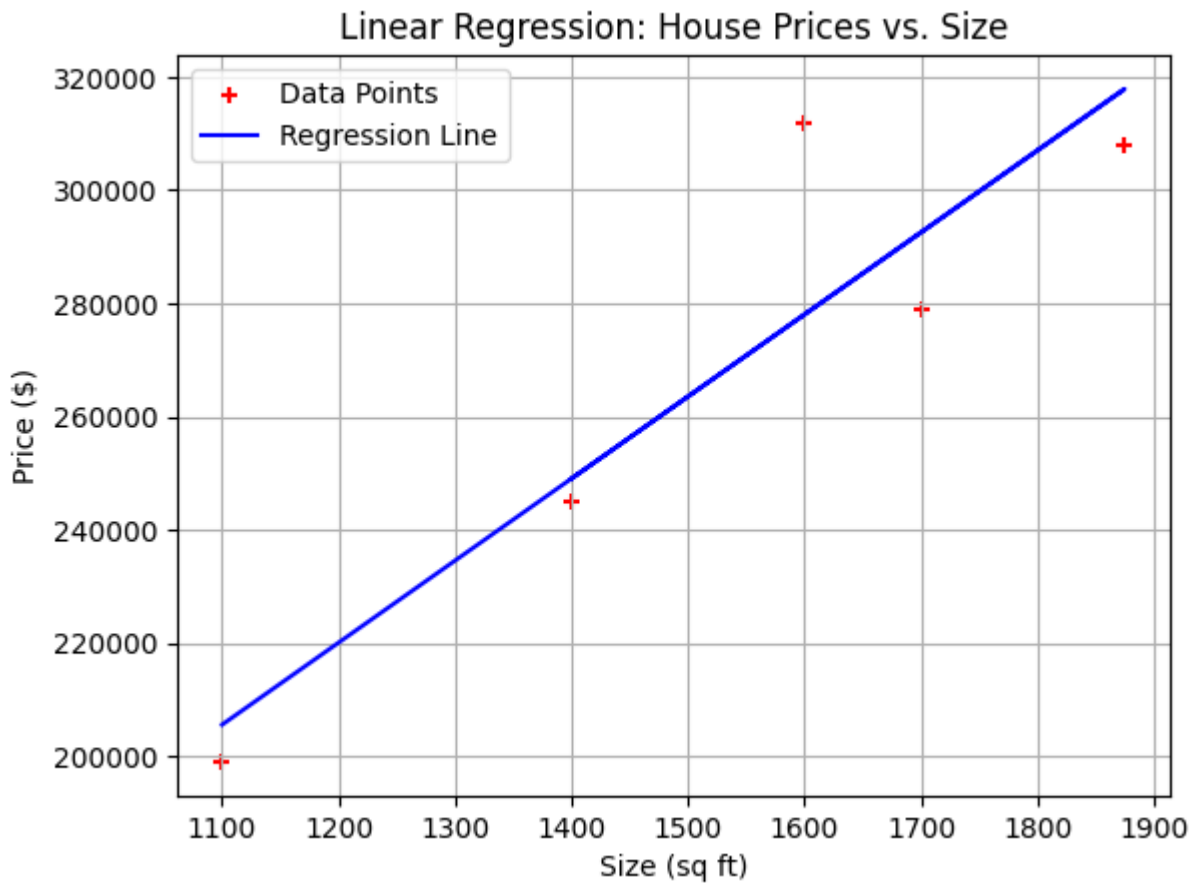
```python
# Show the plot
plt.show()

print(f"Predicted Price for {new_size} sq ft: ${predicted_price:.2f}")
```

Predicted Price for 1500 sq ft: $263525.74