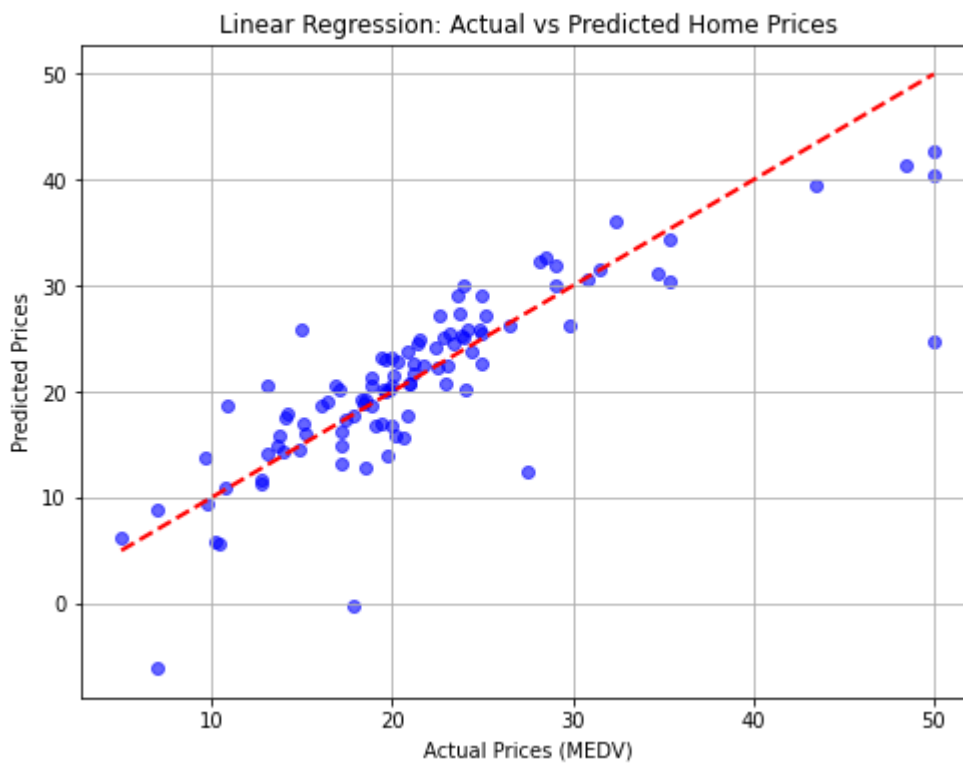


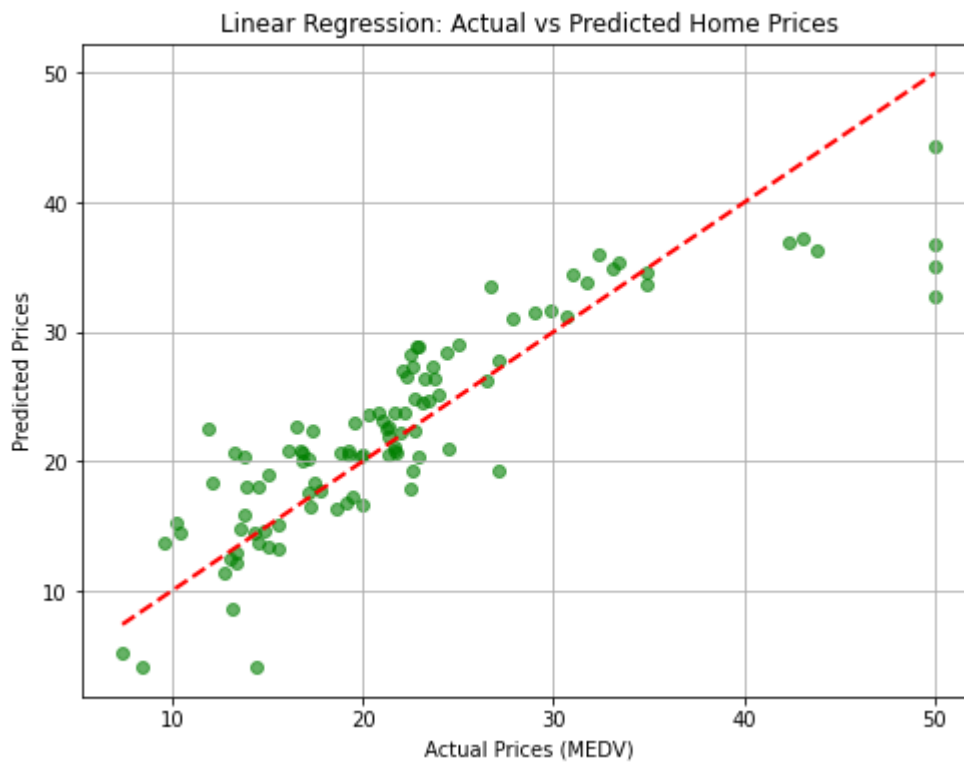
```
In [30]: y_pred = model.predict(X_test)
y_pred1 = model.predict(X_test1)
plt.figure(figsize=(8,6))
plt.scatter(y_test, y_pred, color='blue', alpha=0.6)
plt.plot([y_test.min(), y_test.max()], [y_test.min(), y_test.max()], 'r--', l

plt.xlabel('Actual Prices (MEDV)')
plt.ylabel('Predicted Prices')
plt.title('Linear Regression: Actual vs Predicted Home Prices')
plt.grid(True)
plt.show()
```



```
In [31]: plt.figure(figsize=(8,6))
plt.scatter(y_test1, y_pred1, color='green', alpha=0.6)
plt.plot([y_test1.min(), y_test1.max()], [y_test1.min(), y_test1.max()], 'r--'

plt.xlabel('Actual Prices (MEDV)')
plt.ylabel('Predicted Prices')
plt.title('Linear Regression: Actual vs Predicted Home Prices')
plt.grid(True)
plt.show()
```



```
In [33]: mse = mean_squared_error(y_test, y_pred)

rmse = np.sqrt(mse)

mae = mean_absolute_error(y_test, y_pred)

r2 = r2_score(y_test, y_pred)

print("Mean Squared Error (MSE):", mse)
print("Root Mean Squared Error (RMSE):", rmse)
print("Mean Absolute Error (MAE):", mae)
print("R2 Score:", r2)
```

```
Mean Squared Error (MSE): 24.291119474973478
Root Mean Squared Error (RMSE): 4.928602182665332
Mean Absolute Error (MAE): 3.189091965887837
R2 Score: 0.6687594935356326
```

```
In [34]: selected_features = ['crim', 'indus', 'age', 'rad', 'tax']

X = boston[selected_features] # Only chosen columns
y = boston['medv']           # Target
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.linear_model import LinearRegression

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

```
Out[34]: ▼ LinearRegression ⓘ ?
LinearRegression()
```

```
In [35]: y_pred = model.predict(X_test)
```

```
In [36]: from sklearn.metrics import mean_squared_error, mean_absolute_error, r2_score
import numpy as np

mse = mean_squared_error(y_test, y_pred)
rmse = np.sqrt(mse)
mae = mean_absolute_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)

print("Mean Squared Error (MSE):", mse)
print("Root Mean Squared Error (RMSE):", rmse)
print("Mean Absolute Error (MAE):", mae)
print("R² Score:", r2)
```

```
Mean Squared Error (MSE): 46.38474398396048
Root Mean Squared Error (RMSE): 6.810634624171266
Mean Absolute Error (MAE): 4.791432034046519
R² Score: 0.36748464370706546
```

```
In [ ]:
```