In [11]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.datasets import fetch_openml
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_absolute_error, mean_squared_error, r2_score
from sklearn.preprocessing import StandardScaler
```

In [12]:
```
data = fetch_openml(name='boston', as_frame=True)
df = data.frame
```

```
C:\ProgramData\anaconda3\lib\site-packages\sklearn\datasets\_openml.py:292: UserWarning: Multi
ple active versions of the dataset matching the name boston exist. Versions may be fundamental
ly different, returning version 1.
  warn(
C:\ProgramData\anaconda3\lib\site-packages\sklearn\datasets\_openml.py:932: FutureWarning: The
default value of `parser` will change from `'liac-arff'` to `'auto'` in 1.4. You can set `pars
er='auto'` to silence this warning. Therefore, an `ImportError` will be raised from 1.4 if the
dataset is dense and pandas is not installed. Note that the pandas parser may return different
data types. See the Notes Section in fetch_openml's API doc for details.
  warn(
```

In [13]:
```
if 'MEDV' in df.columns:
    df.rename(columns={'MEDV': 'medv'}, inplace=True)
```

In [14]:
```
X = df.drop(columns=['medv'])  # 'medv' is the target variable (Median value of homes in $1000s
y = df['medv']
```

In [15]:
```
scaler = StandardScaler()
X_scaled = scaler.fit_transform(X)
```

In [16]:
```
X_train, X_test, y_train, y_test = train_test_split(X_scaled, y, test_size=0.2, random_state=42
```

In [17]:
```
model = LinearRegression()
model.fit(X_train, y_train)
```

Out[17]:
```
▾ LinearRegression

LinearRegression()
```

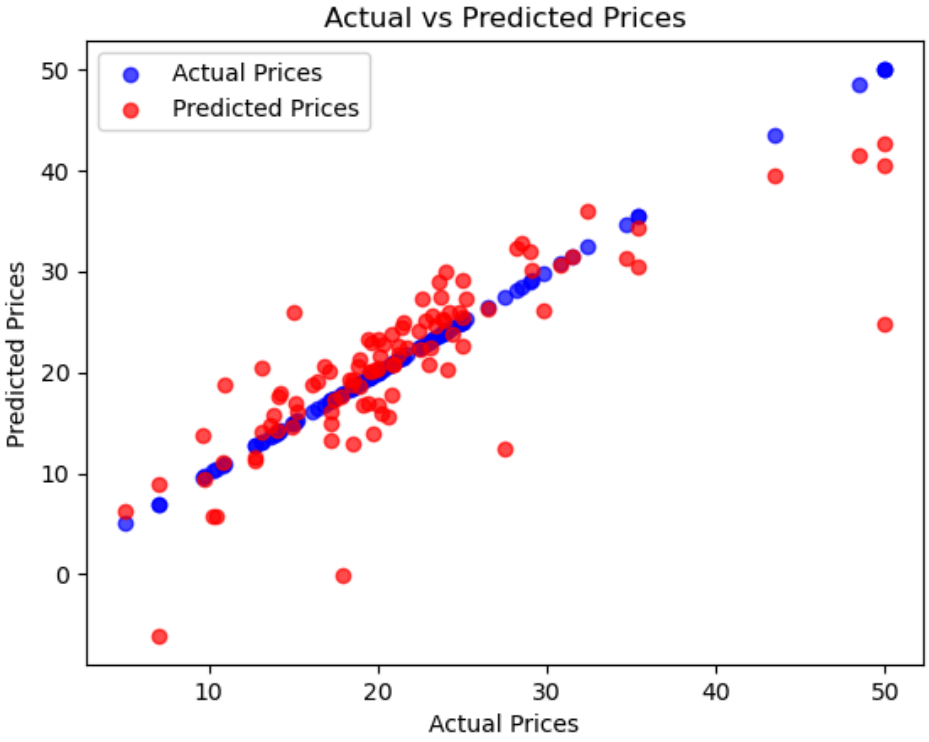
In [18]:
```
y_pred = model.predict(X_test)
```

In [19]:
```
mae = mean_absolute_error(y_test, y_pred)
mse = mean_squared_error(y_test, y_pred)
rmse = np.sqrt(mse)
r2 = r2_score(y_test, y_pred)
```

In [20]:
```
print(f'MAE: {mae}')
print(f'MSE: {mse}')
print(f'RMSE: {rmse}')
print(f'R2 Score: {r2}')
```

```
MAE: 3.1890919658878496
MSE: 24.29111947497352
RMSE: 4.928602182665337
R2 Score: 0.668759493535632
```

In [22]:
```
plt.scatter(y_test, y_test, color='blue', alpha=0.7, label='Actual Prices')
plt.scatter(y_test, y_pred, color='red', alpha=0.7, label='Predicted Prices')
plt.xlabel('Actual Prices')
plt.ylabel('Predicted Prices')
plt.title('Actual vs Predicted Prices')
plt.legend()
plt.show()
```



In [ ]:
```
```