```
In [5]: import pandas as pd
        import matplotlib.pyplot as axis
        import numpy as np
        from sklearn.feature_selection import RFECV
```

```
In [6]: data = pd.read_csv("Boston_housing.csv", header=0)

        data.head(5)
```

Out[6]:

	area_number	Longitude	crime	pollution_(nitrous_oxide)	avr_rooms_per_house	%houses_built_<1940	distance_to_employment_offices	property tax	teacl student_r:
0	0	-70.955	0.00632	0.538	6.575	65.2	4.0900	296	
1	1	-70.950	0.02731	0.469	6.421	78.9	4.9671	242	
2	1	-70.936	0.02729	0.469	7.185	61.1	4.9671	242	
3	2	-70.928	0.03237	0.458	6.998	45.8	6.0622	222	
4	2	-70.922	0.06905	0.458	7.147	54.2	6.0622	222	

```
In [3]: predictors = data.drop('pollution_(nitrous_oxide)', axis=1)

        target = data['median_price']
```

```
In [4]: from sklearn.ensemble import RandomForestRegressor

        model = RandomForestRegressor(n_estimators=100, random_state=1)
```

```
In [5]: rfecv = RFECV(estimator=model, step=1, cv=5, scoring='r2')
        rfecv.fit(predictors, target)
```
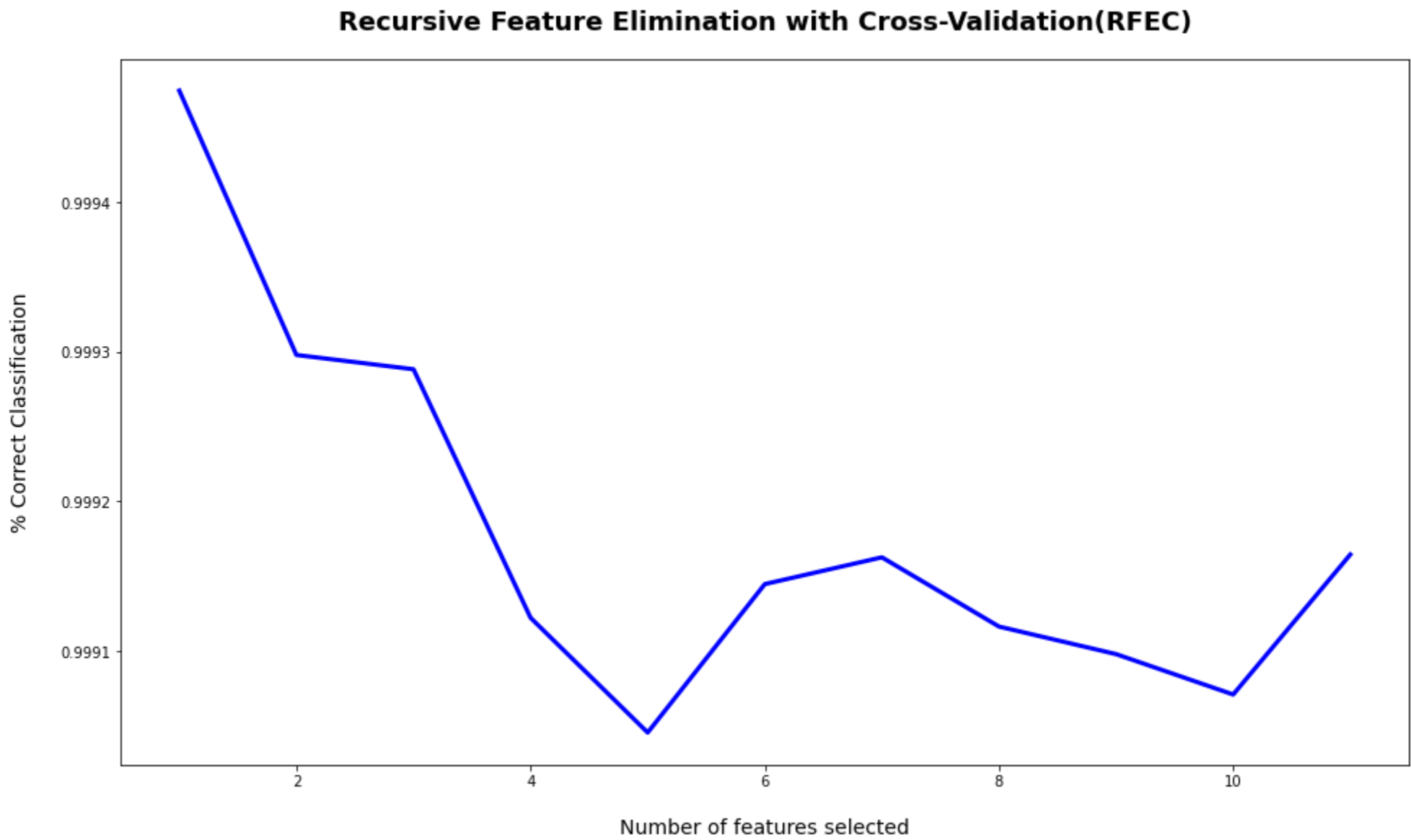
Out[5]: RFECV(cv=5, estimator=RandomForestRegressor(random_state=1), scoring='r2')

```
In [6]: print('Features: ', rfecv.n_features_)
        print('Support: ', rfecv.support_)
        print('Estimators: ', rfecv.estimator_.feature_importances_)
        print('Rankings: ', rfecv.ranking_)
```

```
        Features:  1
        Support:  [False False False False False False False False False False  True]
        Estimators:  [1.]
        Rankings:  [10  3  2  8  9  5  6 11  4  7  1]
```

```
In [7]: axis.figure(figsize=(16, 9))
        axis.title('Recursive Feature Elimination with Cross-Validation(RFEC)', fontsize=18, fontweight='bold', pad=20)
        axis.xlabel('Number of features selected', fontsize=14, labelpad=20)
        axis.ylabel('% Correct Classification', fontsize=14, labelpad=20)
        axis.plot(range(1, len(rfecv.grid_scores_) + 1), rfecv.grid_scores_, color='blue', linewidth=3)

        axis.show()
```


Recursive Feature Elimination with Cross-Validation(RFEC)

```
In [ ]:
```