

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

```
dataset = pd.read_csv('https://raw.githubusercontent.com/amppmann/Machine-Learning-SourceCodes/main/Position_Salaries.csv')
x = dataset.iloc[:, 1:-1].values
y = dataset.iloc[:, -1].values
```

```
print("\nx : ",x)
print("\ny : ",y)
```

```
y = y.reshape(len(y),1)
```

```
print("\nReshaped y : ",y)
```

```
from sklearn.preprocessing import StandardScaler
sc_x = StandardScaler()
sc_y = StandardScaler()
```

```
X = sc_x.fit_transform(x)
```

```
Y = sc_y.fit_transform(y)
```

```
print("Transformed X : ",X)
print("Transformed Y : ",Y)
```

```
from sklearn.svm import SVR
regressor = SVR(kernel = 'rbf')
regressor.fit(X, Y)
```

```
print("New Value")
print(sc_y.inverse_transform(regressor.predict(sc_x.transform([[6.5]])).reshape(-1,1)))
# Visualising the SVR results
plt.scatter(sc_x.inverse_transform(X), sc_y.inverse_transform(y).reshape(-1,1), color = 'red')
plt.plot(sc_x.inverse_transform(X), sc_y.inverse_transform(regressor.predict(X).reshape(-1,1)), color = 'blue')
plt.title('Truth or Bluff (SVR)')
plt.xlabel('Position level')
plt.ylabel('Salary')
plt.show()
```

```
# Visualising the SVR results (for higher resolution and smoother curve)
```

```
X_grid = np.arange(min(sc_x.inverse_transform(X)), max(sc_x.inverse_transform(X)), 0.1)
X_grid = X_grid.reshape((len(X_grid), 1))
plt.scatter(sc_x.inverse_transform(X), sc_y.inverse_transform(y).reshape(-1,1), color = 'red')
plt.plot(X_grid, sc_y.inverse_transform(regressor.predict(sc_x.transform(X_grid)).reshape(-1,1)), color = 'blue')
plt.title('Truth or Bluff (SVR)')
plt.xlabel('Position level')
plt.ylabel('Salary')
plt.show()
```



```
x: [[ 1]
[ 2]
[ 3]
[ 4]
[ 5]
[ 6]
[ 7]
[ 8]
[ 9]
[10]]

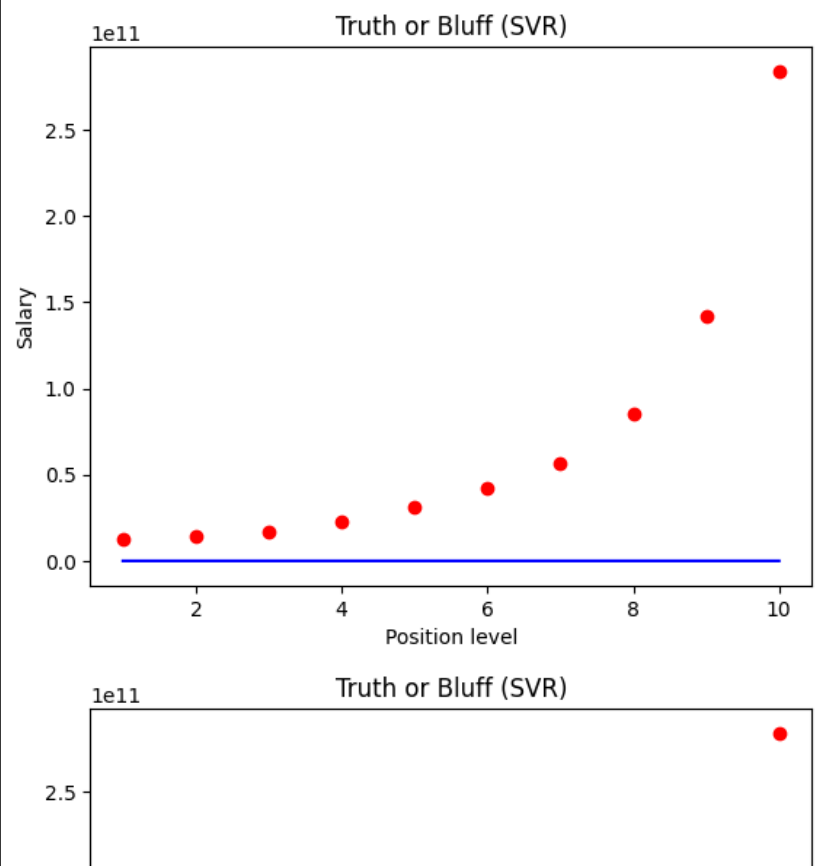
y: [ 45000 50000 60000 80000 110000 150000 200000 300000 500000
1000000]

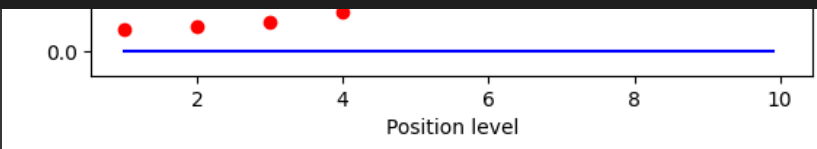
Reshaped y : [[ 45000]
[ 50000]
[ 60000]
[ 80000]
[ 110000]
[ 150000]
[ 200000]
[ 300000]
[ 500000]
[1000000]]

Transformed X : [[-1.5666989 ]
[-1.21854359]
[-0.87038828]
[-0.52223297]
[-0.17407766]
[ 0.17407766]
[ 0.52223297]
[ 0.87038828]
[ 1.21854359]
[ 1.5666989 ]]

Transformed Y : [[-0.72004253]
[-0.70243757]
[-0.66722767]
[-0.59680786]
[-0.49117815]
[-0.35033854]
[-0.17428902]
[ 0.17781001]
[ 0.88200808]
[ 2.64250325]]

New Value
/usr/local/lib/python3.9/dist-packages/sklearn/utils/validation.py:1143: DataConversionWarning: A column-vector y was passed when a 2D matrix was expected. The error is
y = column_or_1d(y, warn=True)
[[170370.0204065]]
```





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