Decision Tree Regression

Importing the libraries

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

Importing the dataset

```
dataset = pd.read_csv('Position_Salaries.csv')
X = dataset.iloc[:, 1:-1].values
y = dataset.iloc[:, -1].values
```

Training the Decision Tree Regression model on the whole dataset

```
from sklearn.tree import DecisionTreeRegressor
regressor=DecisionTreeRegressor(random_state=0)
regressor.fit(X,y)
```

```
DecisionTreeRegressor(ccp_alpha=0.0, criterion='mse', max_depth=None,
                      max_features=None, max_leaf_nodes=None,
                      min_impurity_decrease=0.0, min_impurity_split=None,
                      min_samples_leaf=1, min_samples_split=2,
                      min_weight_fraction_leaf=0.0, presort='deprecated',
                      random_state=0, splitter='best')
```

Predicting a new result

```
regressor.predict([[6.5]])
```

```
array([150000.])
```

Visualising the Decision Tree Regression results (higher resolution)

```
X_grid=np.arange(min(X), max(X), 0.1)
X_grid=X_grid.reshape(len(X_grid),1)
```

```
plt.scatter(X,y,color='red')
plt.plot(X_grid,regressor.predict(X_grid),color='blue')
plt.title("Truth or Bluff (Decision Tree Regression)")
plt.xlabel("Position Level")
plt.ylabel("Salary")
plt.show()
```