Decision Tree Regression

Importing the libraries

```
In [1]: import numpy as np
        import matplotlib.pyplot as plt
        import pandas as pd
```

Importing the dataset

```
In [5]: dataset = pd.read_csv("Position_Salaries.csv")
        x = dataset.iloc[:, 1:-1].values
        y = dataset.iloc[:, -1].values
```

```
In [6]: print(x)
```

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

```
In [7]: print(y)
```

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

Training the Decision Tree Regression model on the whole dataset

```
In [10]: from sklearn.tree import DecisionTreeRegressor
         model = DecisionTreeRegressor(random_state = 0)
         model.fit(x, y)
```

```
Out[10]: DecisionTreeRegressor(random_state=0)
```

Predicting a new result

```
In [12]: model.predict([[6.5]])
```

```
Out[12]: array([150000.])
```

Visualising the Decision Tree Regression results (higher resolution)

```
In [13]: X_grid = np.arange(min(x), max(x), 0.01)
         X_grid = X_grid.reshape((len(X_grid), 1))
```

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