Step 1 :- Import Libraries

```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error,r2_score
from sklearn.linear_model import LinearRegression
```

Step 2 :- Import the Dataset

```python
df = pd.read_csv('Linear.csv')
```

```python
df
```

	Experience	Salary
0	1	25000
1	2	30000
2	3	35000
3	4	40000
4	5	45000
5	6	50000
6	7	55000
7	8	60000
8	9	65000
9	10	70000
10	11	75000
11	12	80000
12	13	85000
13	14	90000
14	15	95000

Step 3 :- Identify the Independent Columns (X) and Dependent Column (Y)

```python
X = df[['Experience']].values
```

```python
y = df['Salary'].values
```

Step 4 :- Train Test Split

```python
X_train , X_test , y_train ,y_test = train_test_split(X,y,test_size=0.2,random_state=42)
```

Step 5 :- Model Building

```python
Model = LinearRegression()
```

```python
Model.fit(X_train,y_train) # Training the model
```

```
    ▼   LinearRegression  ⓘ  ?
        LinearRegression()
```

```python
y_pred = Model.predict(X_test)
```

```python
print("Intercept  : ",(Model.intercept_)) # Intercept
```

```
Intercept  :  20000.000000000015
```

```python
print("Co-efficient : ",(Model.coef_)) # Co-efficient
```

```
Co-efficient :  [5000.]
```

```python
MSE = mean_squared_error(y_test,y_pred)
```

```python
MSE
```

```
1.8087682727826204e-22
```

```python
R2_Score = r2_score(y_test,y_pred)
```

```python
R2_Score
```

```
1.0
```

```python
Comparison = pd.DataFrame({"Actual  ":y_test,"Predicted ":y_pred})
```
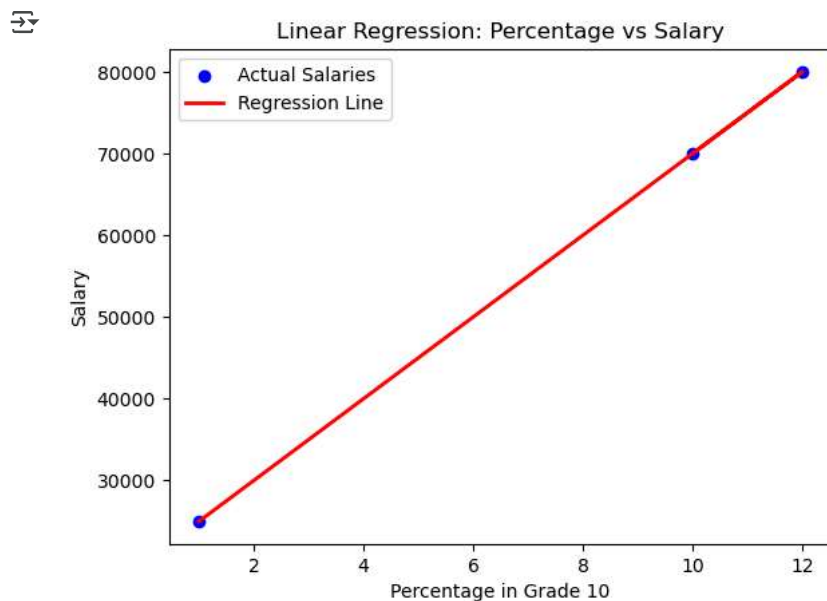
```python
Comparison
```

	Actual	Predicted
0	70000	70000.0
1	80000	80000.0
2	25000	25000.0

```python
plt.scatter(X_test, y_test, color="blue", label="Actual Salaries")
plt.plot(X_test, y_pred, color="red", linewidth=2, label="Regression Line")
plt.xlabel("Percentage in Grade 10")
plt.ylabel("Salary")
plt.title("Linear Regression: Percentage vs Salary")
plt.legend()
plt.show()
```

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