▾ MACHINE LEARNING

▾ SIMPLE LINEAR REGRESSION

```
pip install skleton
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/sim
ERROR: Could not find a version that satisfies the requirement skleton (from versions: none)
ERROR: No matching distribution found for skleton
```

```
pip install scikit-learn
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/sim
Requirement already satisfied: scikit-learn in /usr/local/lib/python3.10/dist-packages (1.2.2)
Requirement already satisfied: numpy>=1.17.3 in /usr/local/lib/python3.10/dist-packages (from
Requirement already satisfied: scipy>=1.3.2 in /usr/local/lib/python3.10/dist-packages (from s
Requirement already satisfied: joblib>=1.1.1 in /usr/local/lib/python3.10/dist-packages (from
Requirement already satisfied: threadpoolctl>=2.0.0 in /usr/local/lib/python3.10/dist-packages
```

▾ step-1 import libraries

```python
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import sklearn
```

▾ STEP-2 import data

```python
df= pd.read_csv("salary_data.csv")
df.head()
```

	YearsExperience	Salary
0	1.1	39343
1	1.3	46205
2	1.5	37731
3	2.0	43525
4	2.2	39891

step-3 selecting input and output variables

```python
X=df[["YearsExperience"]]
y=df["Salary"]
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.2,random_state=0)
```

```python
X.head()
```

	YearsExperience
0	1.1
1	1.3
2	1.5
3	2.0
4	2.2

```python
y.head()
```

```
0     39343
1     46205
2     37731
3     43525
4     39891
Name: Salary, dtype: int64
```

step-4 making linear regression

```python
from sklearn.linear_model import LinearRegression
model = LinearRegression()
```

step-5 fitting the model

```python
model=model.fit(X,y)
model
```

```
▼ LinearRegression
LinearRegression()
```

step-6 predicting the model

```python
model.predict([[10]])
```

```
/usr/local/lib/python3.10/dist-packages/sklearn/base.py:439: UserWarning: X does not have vali
    warnings.warn(
array([120291.82341322])
```

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▾ step-7 Evaluating the model

```
 import matplotlib.pyplot as plt
plt.scatter(X_train,y_train)
plt.plot(X_train.values, model.predict(X_train), color="red")
```

[<matplotlib.lines.Line2D at 0x7f229ff6abc0>]

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