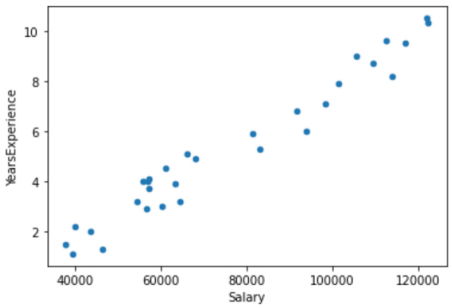
In [1]:
```
#import required models
import pandas as pd
import matplotlib.pyplot as plt
from sklearn import linear_model
```

In [2]:
```
#read the required file
data = pd.read_csv("D:\\github repo\\PracticeFolder\Salary_Data.csv")
data
```

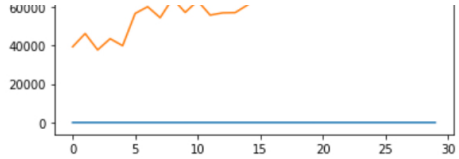
Out[2]:

	YearsExperience	Salary
0	1.1	39343.0
1	1.3	46205.0
2	1.5	37731.0
3	2.0	43525.0
4	2.2	39891.0
5	2.9	56642.0
6	3.0	60150.0
7	3.2	54445.0
8	3.2	64445.0
9	3.7	57189.0
10	3.9	63218.0
11	4.0	55794.0
12	4.0	56957.0
13	4.1	57081.0
14	4.5	61111.0
15	4.9	67938.0
16	5.1	66029.0
17	5.3	83088.0
18	5.9	81363.0
19	6.0	93940.0
20	6.8	91738.0
21	7.1	98273.0
22	7.9	101302.0
23	8.2	113812.0
24	8.7	109431.0
25	9.0	105582.0
26	9.5	116969.0
27	9.6	112635.0
28	10.3	122391.0
29	10.5	121872.0

In [3]:
```
# plot the graph
data.plot(kind='scatter', x='Salary', y='YearsExperience')
plt.show()
```



In [4]:
```
# plot the graph
data.plot(kind='line')
plt.show()
```



In [5]:
```
#Correlation Coefficient
data.corr()
```

Out[5]:

	YearsExperience	Salary
YearsExperience	1.000000	0.978242
Salary	0.978242	1.000000

In [6]:
```
# we can convert our dataset into a dataframe
Salary = pd.DataFrame(data["Salary"])
YearsExperience = pd.DataFrame(data["YearsExperience"])
```

In [7]:
```
#Building the Linear Regression model
lm = linear_model.LinearRegression()
model = lm.fit(Salary, YearsExperience)
```

In [8]:
```
model.intercept_
```

Out[8]:
```
array([-2.38316056])
```

In [9]:
```
model.coef_
```

Out[9]:
```
array([[0.00010127]])
```

model.score(Salary, YearsExperience)

In [10]:
```
#accuracy of your model
model.score(Salary, YearsExperience)
```

Out[10]:
```
0.9569566641435086
```

In [11]:
```
data.shape
```

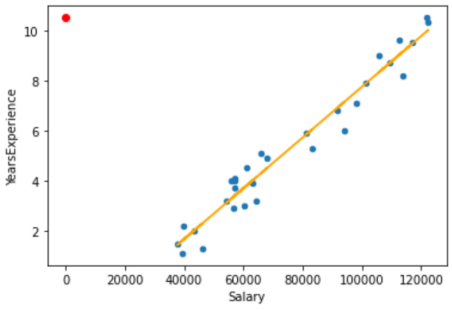
Out[11]:
```
(30, 2)
```

In [15]:
```
#Predicting new values for Salary
newExpirence = 10.5
predictNewSalary = model.predict([[newExpirence]])
print(predictNewSalary)
```

```
[[-2.38209728]]
```

```
C:\Users\PRATIKBAWANE\AppData\Local\Programs\Python\Python310\lib\site-packages\sklearn\base.py:450: UserWarning: X does not ha
ve valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(
```

In [16]:
```
data.plot(kind='scatter', x='Salary', y='YearsExperience')
plt.plot(Salary, model.predict(Salary), color='orange', linewidth=1.8)
plt.scatter(predictNewSalary, newExpirence, color='red')
plt.show()
```



In [ ]: