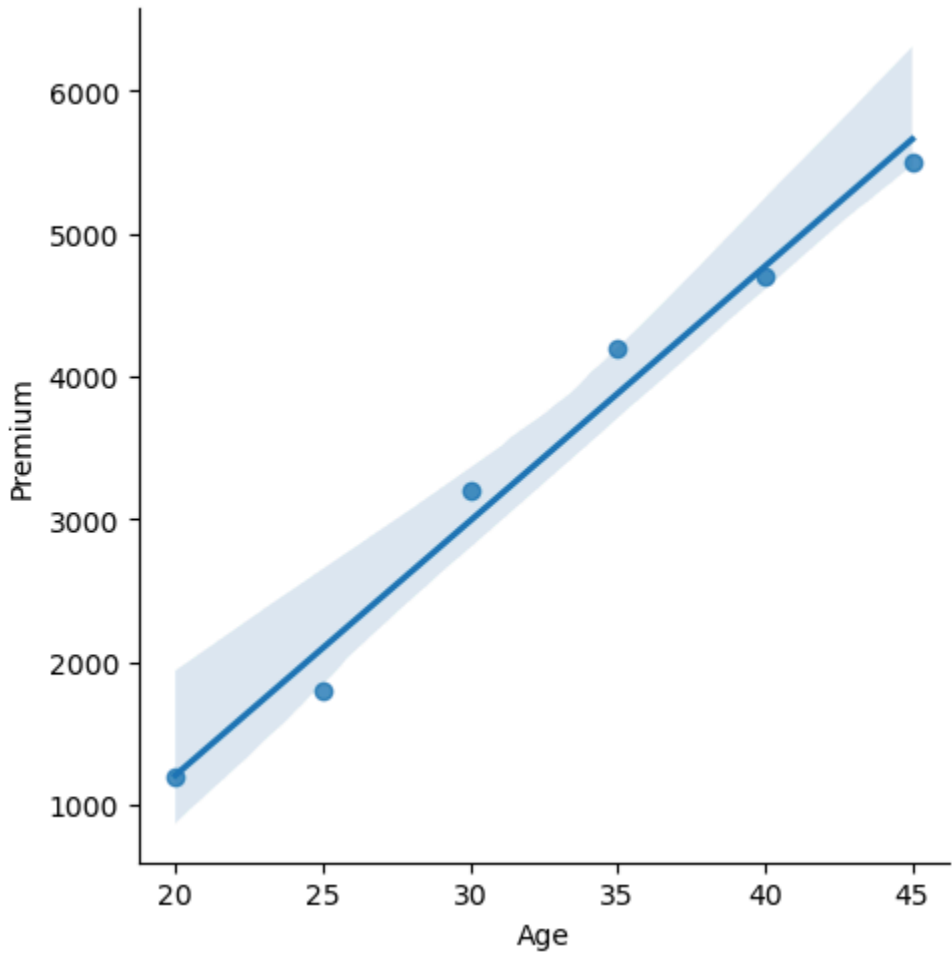```
In [6]: #find the premium for age 21 by linear regression model
         import pandas as pd
         import seaborn as sns
         from sklearn import linear_model
         df = pd.read_excel(r"C:\Users\sb505\OneDrive\Desktop\insurance_data.xlsx")#if path is copied
         print(df)
```

```
   Age  Premium
0   20     1200
1   25     1800
2   30     3200
3   35     4200
4   40     4700
5   45     5500
```

```
In [10]:  sns.lmplot(x="Age",y="Premium",data=df)
```

Out[10]: <seaborn.axisgrid.FacetGrid at 0x20a77a78710>


```
In [12]:  #import linearregression method
          reg=linear_model.LinearRegression()
```

```
In [19]:  X = df[["Age"]]  # Features
          y = df["Premium"]  # Target variable (you should specify the column you're trying to predict)

          # Initialize and train the model

          reg.fit(X, y)
```

Out[19]: ▼ LinearRegression ●●
          LinearRegression()

```
In [21]:  reg.predict([[21]])
```

C:\Users\sb505\anaconda3\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(

Out[21]: array([1383.04761905])

```
In [23]:  reg.coef_ #find coeff
```

Out[23]: array([178.28571429])

```
In [25]:  reg.intercept_
```

```
Out[25]:  -2360.952380952381
```

In [ ]: