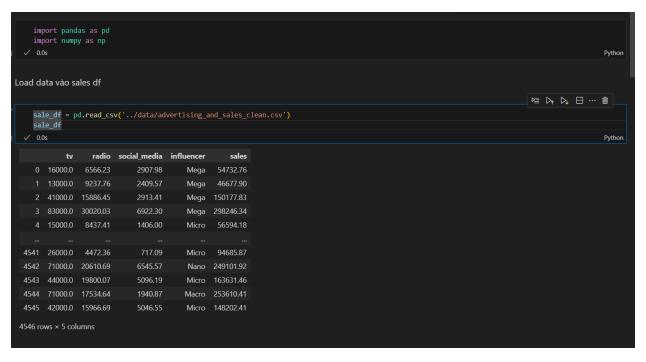
MSSV: 21114201 Họ và Tên: Trần Ngọc Phát ca TH: 2



```
• Create x, an array of the values from the sales_df DataFrame's "radio" column.
         • Create y, an array of the values from the sales df DataFrame's "sales" column.
           x = np.array(sale_df['radio'])
y = np.array(sale_df['sales'])
     Reshape x into a two-dimensional NumPy array.
          x_reshape = x.reshape(-1, 1)
x_reshape
[ 9237.76],
[15886.45],
                ...,
[19800.07],
     Print the shape of x and y.
          print(y.shape)
                                                                                                                                                                                                      Python
     Import LinearRegression.
          from sklearn.linear_model import LinearRegression as lr
from sklearn.model_selection import train_test_split
                                                                                                                                                                                                      Python
     Instantiate a linear regression model.
     Predict sales values using x, storing as predictions.
          x_train, x_test, y_train, y_test = train_test_split(x_reshape, y, test_size=0.2)
model.fit(x_train, y_train)
predictions = model.predict(x_test)
predictions[:5]
```

```
array([ 73529.96083895, 237860.32287776, 172914.31889386, 137228.90744772, 133162.81134904])
Import matplotlib.pyplot as plt.

Create a scatter plot visualizing y against x, with observations in blue.
Draw a red line plot displaying the predictions against x.
Display the plot.

      plt.title('Radio vs Sales')
plt.scatter(x_test, y_test, color='blue')
plt.plot(x_test, predictions, color='red')
plt.show()
                                                          Radio vs Sales
          400000
          350000
          300000
          250000
          200000
          150000
          100000
            50000
                                          10000
                                                             20000
                                                                                 30000
                                                                                                    40000
```