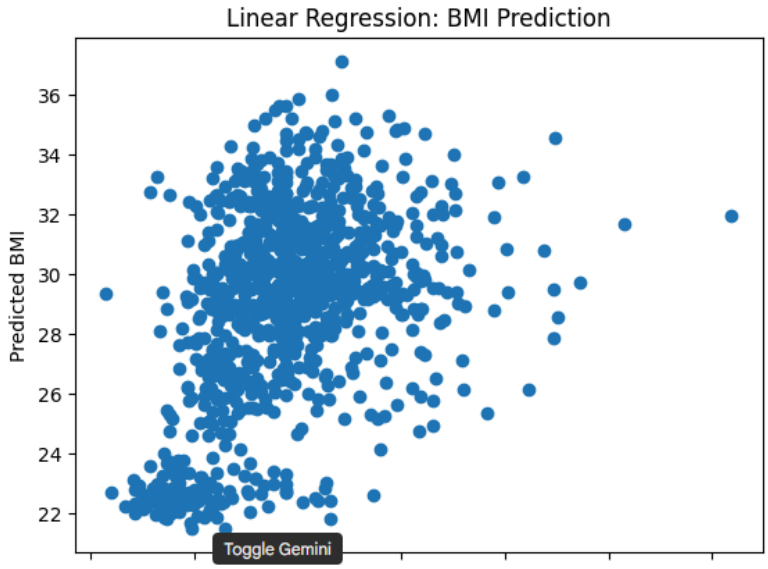
```
      id  gender   age  hypertension  heart_disease ever_married  \
0   9046    Male  67.0             0              1          Yes
1  51676  Female  61.0             0              0          Yes
2  31112    Male  80.0             0              1          Yes
3  60182  Female  49.0             0              0          Yes
4   1665  Female  79.0             1              0          Yes

      work_type Residence_type  avg_glucose_level   bmi   smoking_status  \
0       Private          Urban             228.69  36.6  formerly smoked
1  Self-employed          Rural             202.21   NaN     never smoked
2       Private          Rural             105.92  32.5     never smoked
3       Private          Urban             171.23  34.4           smokes
4  Self-employed          Rural             174.12  24.0     never smoked

   stroke
0       1
1       1
2       1
3       1
4       1
```

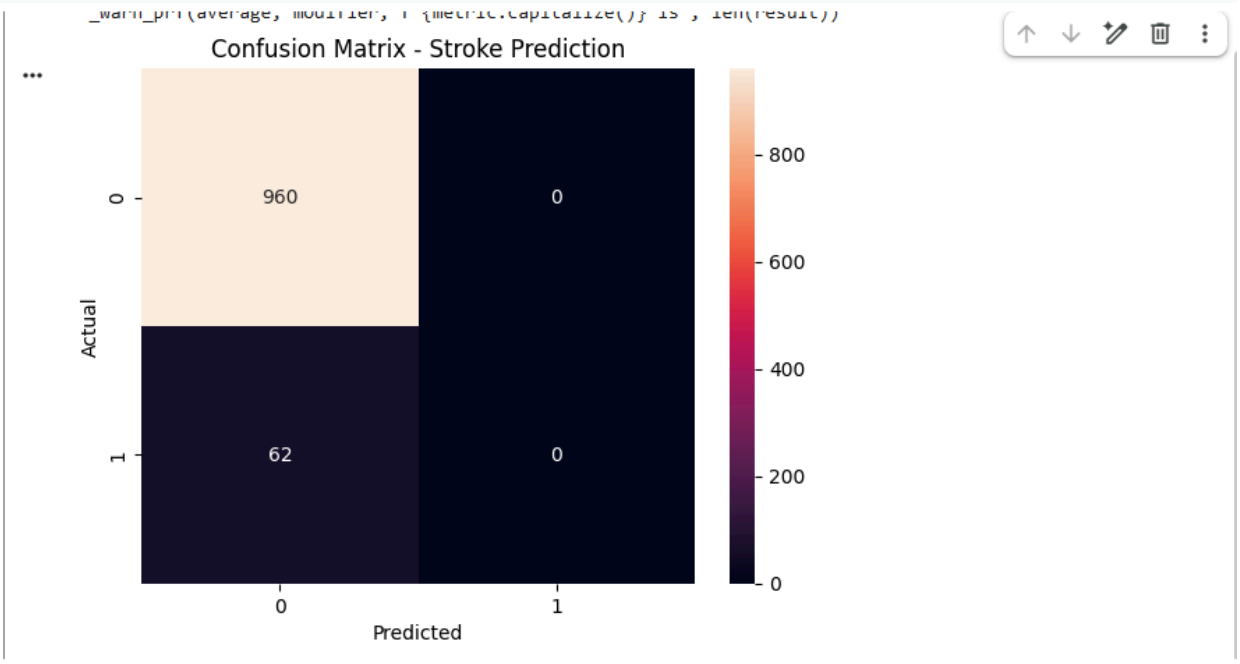
```
plt.show()
```

```
After Encoding:
   gender   age  hypertension  heart_disease  ever_married  work_type  \
0       1  67.0             0              1             1          2
1       0  61.0             0              0             1          3
2       1  80.0             0              1             1          2
3       0  49.0             0              0             1          2
4       0  79.0             1              0             1          3

   Residence_type  avg_glucose_level        bmi  smoking_status  stroke
0               1             228.69  36.600000               1       1
1               0             202.21  28.893237               2       1
2               0             105.92  32.500000               2       1
3               1             171.23  34.400000               3       1
4               0             174.12  24.000000               2       1

========== LINEAR REGRESSION ==========
MAE: 5.018980827980884
MSE: 43.9725374897823
RMSE: 6.6311791930080055
R2 Score: 0.2071236662250704
/tmp/ipython-input-1180728137.py:34: FutureWarning: A value is trying to be set on a copy of a DataFrame or S
The behavior will change in pandas 3.0. This inplace method will never work because the intermediate object o
```

```
plt.show()
```




```
========== LOGISTIC REGRESSION ==========
Accuracy: 0.9393346379647749

Confusion Matrix:
 [[960   0]
 [ 62   0]]

Classification Report:
              precision    recall  f1-score   support

           0       0.94      1.00      0.97       960
           1       0.00      0.00      0.00        62

    accuracy                           0.94      1022
   macro avg       0.47      0.50      0.48      1022
weighted avg       0.88      0.94      0.91      1022

/usr/local/lib/python3.12/dist-packages/sklearn/metrics/_classification.py:1565: UndefinedMetricWarning: Prec
  _warn_prf(average, modifier, f"{metric.capitalize()} is", len(result))
/usr/local/lib/python3.12/dist-packages/sklearn/metrics/_classification.py:1565: UndefinedMetricWarning: Prec
  _warn_prf(average, modifier, f"{metric.capitalize()} is", len(result))
/usr/local/lib/python3.12/dist-packages/sklearn/metrics/_classification.py:1565: UndefinedMetricWarning: Prec
  _warn_prf(average, modifier, f"{metric.capitalize()} is", len(result))
```


Confusion Matrix - Stroke Prediction
960
0
62
0
Actual
Predicted
0
1
0
1
800
600
400
200
0