CHARVI J D
TCE

CODSOFT-MACHINE LEARNING

OUTPUT:

Task 2: Credit Card Fraud Detection

```
In [1]: runfile('C:/Users/jdcha/.spyder-py3/codsoft/Task2_fraud.py', wdir='C:/Users/jdcha/.spyder-py3/
codsoft')
C:\Users\jdcha\anaconda3\lib\site-packages\sklearn\linear_model\_logistic.py:814: ConvergenceWarning:
lbfgs failed to converge (status=2):
ABNORMAL_TERMINATION_IN_LNSRCH.

Increase the number of iterations (max_iter) or scale the data as shown in:
    https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  n_iter_i = _check_optimize_result(
Logistic Regression Accuracy: 0.9961671345281796
Logistic Regression Classification Report:
              precision    recall  f1-score   support

           0       1.00      1.00      1.00    110718
           1       0.00      0.00      0.00       426

    accuracy                           1.00    111144
   macro avg       0.50      0.50      0.50    111144
weighted avg       0.99      1.00      0.99    111144
```

IPython Console History

LSP Python: ready   conda: base (Python 3.9.13)   Line 19, Col 21   UTF-8   CRLF   RW   Mem 72%

```
Console 1/A X

predicted samples. Use 'zero_division' parameter to control this behavior.
  _warn_prf(average, modifier, msg_start, len(result))
Decision Tree Accuracy: 0.9969678975023393
Decision Tree Classification Report:
              precision    recall  f1-score   support

           0       1.00      1.00      1.00    110718
           1       0.61      0.58      0.59       426

    accuracy                           1.00    111144
   macro avg       0.80      0.79      0.80    111144
weighted avg       1.00      1.00      1.00    111144
```

Task 4:Spam Detection

```
Console 3/A X

Python 3.9.13 (main, Aug 25 2022, 23:51:50) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.31.1 -- An enhanced Interactive Python.

In [1]: runcell(0, 'C:/Users/jdcha/.spyder-py3/codsoft/Task4_spam.py')
                Model  Accuracy  Precision    Recall  F1-score
0         Naive Bayes  0.966816   1.000000  0.753333  0.859316
1  Logistic Regression  0.952466   0.970874  0.666667  0.790514
2                 SVM  0.976682   0.992063  0.833333  0.905797

In [2]:
```