File Name: 26_Prb3

File Contents:

1. Problem: Machine Learning
2. Source Code:
```python
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.svm import SVC
from sklearn.metrics import confusion_matrix, accuracy_score
from sklearn.preprocessing import StandardScaler

try:
    car_data = pd.read_csv('Dataset_Batch37.csv')
    print(car_data.describe())

    X = car_data[['User ID', 'Gender', 'Age', 'EstimatedSalary']].copy()
    y = car_data['Purchased']

    X.loc[:, 'Gender'] = X['Gender'].astype('category').cat.codes


    scaler = StandardScaler()
    X[['Age', 'EstimatedSalary']] = scaler.fit_transform(X[['Age', 'EstimatedSalary']])

    X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

    model = SVC()
    model.fit(X_train, y_train)

    y_pred = model.predict(X_test)
    cm = confusion_matrix(y_test, y_pred)
    accuracy = accuracy_score(y_test, y_pred)

    print("\nConfusion Matrix:\n", cm)
    print("\nAccuracy:", accuracy)

except FileNotFoundError:
    print("Dataset_Batch37.csv not found. Check file path.")
```

```
    except Exception as e:
        print(f"An error occurred: {e}")
```

3. Output:

```
C:\Users\HP\PycharmProjects\PythonProject\.venv\.venv\Scripts\python.exe "C:\Users\HP\PycharmProjects\PythonProject\Final 3.py"
           User ID          Age  EstimatedSalary    Purchased
count  4.000000e+02  400.000000       400.000000  400.000000
mean   1.569154e+07   37.655000     69742.500000    0.357500
std    7.165832e+04   10.482877     34096.960282    0.479864
min    1.556669e+07   18.000000     15000.000000    0.000000
25%    1.562676e+07   29.750000     43000.000000    0.000000
50%    1.569434e+07   37.000000     70000.000000    0.000000
75%    1.575036e+07   46.000000     88000.000000    1.000000
max    1.581524e+07   60.000000    150000.000000    1.000000

Confusion Matrix:
 [[52  0]
 [28  0]]

Accuracy: 0.65

Process finished with exit code 0
```