

Untitled Folder/ x crdeitcardFD.py x | pseudo code x | +

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Apps Reading list

jupyter

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<input type="checkbox"/> pseudo code.ipynb	Running	a month ago	12.8 kB
<input type="checkbox"/> crdeitcardFD.py		a month ago	151 B
<input type="checkbox"/> untitled		a month ago	0 B

The screenshot shows a browser window with the address bar displaying `localhost:8888/edit/Untitled%20Folder/crdeitcardFD.py`. The main content area is a Jupyter notebook cell containing the following Python code:

```
1 import pandas as pd
2 import seaborn as sns
3 import numpy as np
4 data = pd.read_csv(r"C:\Users\VIKRANT TOMAR\Anaconda3\creditcard\dataset.csv")
5 data.head()
```

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localhost:8888/notebooks/Untitled%20Folder/pseudo%20code.ipynb

Apps Reading list

jupyter pseudo code Last Checkpoint: 06/30/2021 (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

In [1]: `import pandas as pd  
import numpy as np  
import seaborn as sns`

In [2]: `data = pd.read_csv(r"C:\Users\VIKRANT TOMAR\Anaconda3\creditcard\dataset.csv")`

In [4]: `data.tail()`

Out[4]:

	Time	V1	V2	V3	V4	V5	V6	V7	V8	V9	...	V21	V22	V23	V24
284802	172786.0	-11.881118	10.071785	-9.834783	-2.066656	-5.364473	-2.606837	-4.918215	7.305334	1.914428	...	0.213454	0.111864	1.014480	-0.509348
284803	172787.0	-0.732789	-0.055080	2.035030	-0.738589	0.868229	1.058415	0.024330	0.294869	0.584800	...	0.214205	0.924384	0.012463	-1.016226
284804	172788.0	1.919565	-0.301254	-3.249640	-0.557828	2.630515	3.031260	-0.296827	0.708417	0.432454	...	0.232045	0.578229	-0.037501	0.640134
284805	172788.0	-0.240440	0.530483	0.702510	0.689799	-0.377961	0.623708	-0.686180	0.679145	0.392087	...	0.265245	0.800049	-0.163298	0.123205
284806	172792.0	-0.533413	-0.189733	0.703337	-0.506271	-0.012546	-0.649617	1.577006	-0.414650	0.486180	...	0.261057	0.643078	0.376777	0.008797

5 rows × 31 columns

In [27]: `fraud = data.loc[data['Class'] == 1]  
normal = data.loc[data['Class'] == 0]`

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In [1]: `import pandas as pd  
import numpy as np  
import seaborn as sns`

In [2]: `data = pd.read_csv(r"C:\Users\VIKRANT TOMAR\Anaconda3\creditcard\dataset.csv")`

In [4]: `data.tail()`

Out[4]:

	V4	V5	V6	V7	V8	V9	...	V21	V22	V23	V24	V25	V26	V27	V28	Amount	Class
656	-5.364473	-2.606837	-4.918215	7.305334	1.914428	...	0.213454	0.111864	1.014480	-0.509348	1.436807	0.250034	0.943651	0.823731	0.77	0	
589	0.868229	1.058415	0.024330	0.294869	0.584800	...	0.214205	0.924384	0.012463	-1.016226	-0.606624	-0.395255	0.068472	-0.053527	24.79	0	
828	2.630515	3.031260	-0.296827	0.708417	0.432454	...	0.232045	0.578229	-0.037501	0.640134	0.265745	-0.087371	0.004455	-0.026561	67.88	0	
799	-0.377961	0.623708	-0.686180	0.679145	0.392087	...	0.265245	0.800049	-0.163298	0.123205	-0.569159	0.546668	0.108821	0.104533	10.00	0	
271	-0.012546	-0.649617	1.577006	-0.414650	0.486180	...	0.261057	0.643078	0.376777	0.008797	-0.473649	-0.818267	-0.002415	0.013649	217.00	0	

In [27]: `fraud = data.loc[data['Class'] == 1]  
normal = data.loc[data['Class'] == 0]`

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In [27]: `fraud = data.loc[data['Class'] == 1]  
normal = data.loc[data['Class'] == 0]`

In [33]: `len(fraud)`

Out[33]: 492

In [34]: `len(normal)`

Out[34]: 284315

In [38]: `from sklearn import linear_model  
from sklearn.model_selection import train_test_split`

In [46]: `X = data.iloc[:, :-1]  
y = data['Class']`

In [47]: `X_train, X_test, y_train, y_test = train_test_split(X, y, test_size= 0.35)`

In [49]: `clf = linear_model.LogisticRegression(C=1e5)`

In [50]: `clf.fit(X_train, y_train)`

C:\Users\VIKRANT TOMAR\Anaconda3\lib\site-packages\sklearn\linear\_model\logistic.py:433: FutureWarning: Default solver will be changed from 'lbfgs' to 'liblinear' in 0.23 version.  
DeprecationWarning: The 'warn\_if\_unused=False' parameter is deprecated and will be removed in 0.23.

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In [50]: `clf.fit(X_train, y_train)`

C:\Users\VIKRANT TOMAR\Anaconda3\lib\site-packages\sklearn\linear\_model\logistic.py:433: FutureWarning: Default solver will be changed to 'lbfgs' in 0.22. Specify a solver to silence this warning.  
FutureWarning)

Out[50]: `LogisticRegression(C=100000.0, class_weight=None, dual=False, fit_intercept=True, intercept_scaling=1, max_iter=100, multi_class='warn', n_jobs=None, penalty='l2', random_state=None, solver='warn', tol=0.0001, verbose=0, warm_start=False)`

In [52]: `y_pred = np.array(clf.predict(X_test))  
y = np.array(y_test)`

In [53]: `from sklearn.metrics import confusion_matrix, classification_report, accuracy_score`

In [54]: `print(confusion_matrix(y_test, y_pred))`

`[[99499 25]  
 [ 71 88]]`

In [55]: `print(accuracy_score(y_test, y_pred))`

`0.9990369471223779`

In [56]: `print(classification_report(y_test, y_pred))`

	precision	recall	f1-score	support
0	0.9990369471223779	0.9990369471223779	0.9990369471223779	99499
1	0.0009650528776221	0.0009650528776221	0.0009650528776221	25
accuracy	0.9990369471223779	0.9990369471223779	0.9990369471223779	99524
macro avg	0.5000000000000001	0.5000000000000001	0.5000000000000001	99524
weighted avg	0.9990369471223779	0.9990369471223779	0.9990369471223779	99524

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[ [99499 25]  
[ 71 88]]

In [55]: `print(accuracy_score(y_test, y_pred))`

0.9990369471223779

In [56]: `print(classification_report(y_test, y_pred))`

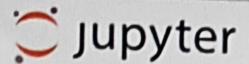
	precision	recall	f1-score	support
0	1.00	1.00	1.00	99524
1	0.78	0.55	0.65	159
micro avg	1.00	1.00	1.00	99683
macro avg	0.89	0.78	0.82	99683
weighted avg	1.00	1.00	1.00	99683

In [ ]:

```
In [27]: fraud = data.loc[data['Class'] == 1]
normal = data.loc[data['Class'] == 0]
```

```
In [32]: fraud.sum()
```

```
Out[32]: Time      3.972743e+07
V1      -2.347799e+03
V2      1.782899e+03
V3      -3.460374e+03
V4      2.234678e+03
V5      -1.550403e+03
V6      -6.876865e+02
V7      -2.739816e+03
V8      2.807529e+02
V9      -1.269912e+03
V10     -2.793026e+03
V11     1.869685e+03
V12     -3.079621e+03
V13     -5.379224e+01
V14     -3.430088e+03
V15     -4.572094e+01
V16     -2.036853e+03
V17     -3.279592e+03
V18     -1.105184e+03
V19     3.348844e+02
```

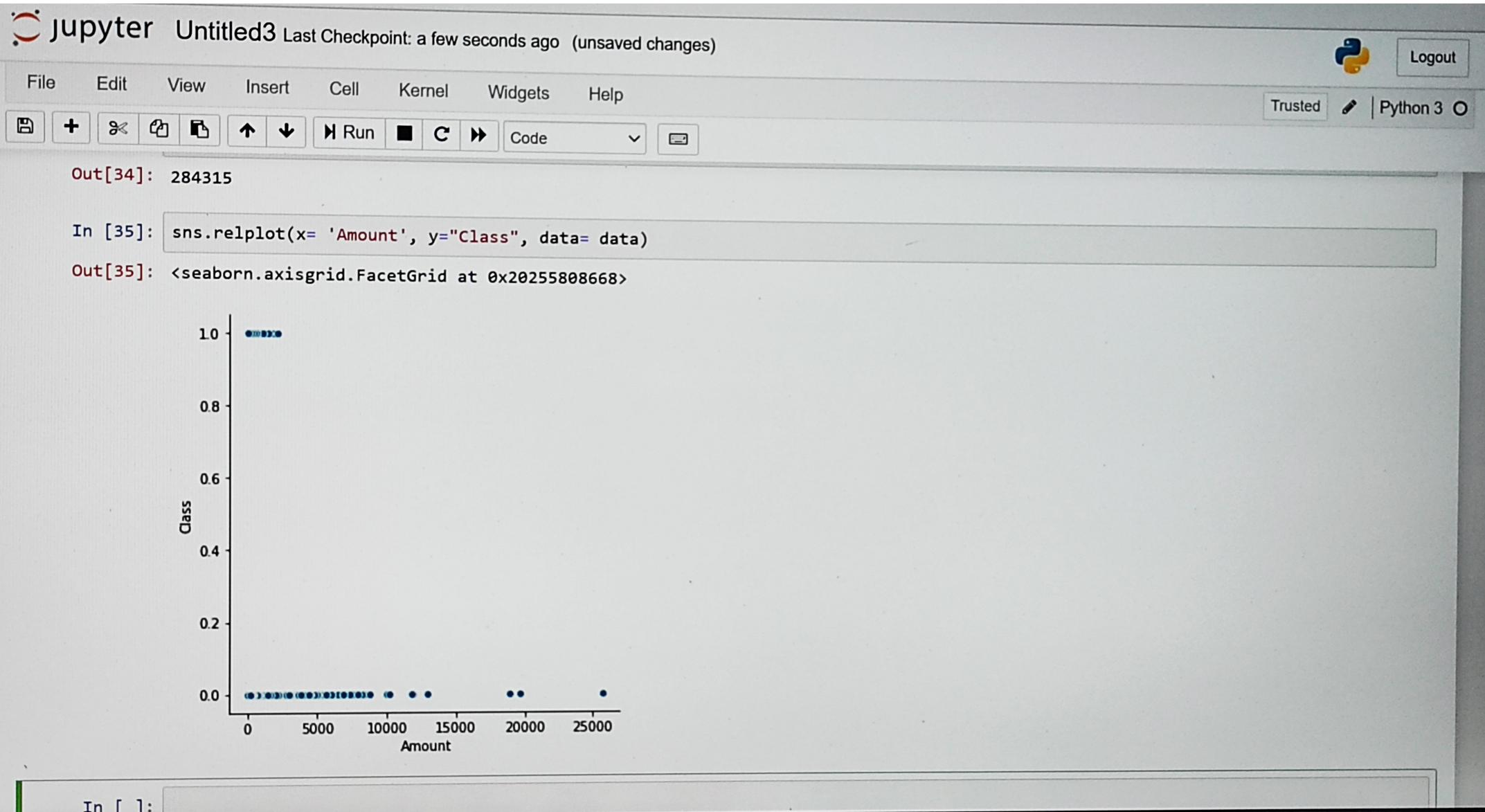


## Jupyter Untitled3 Last Checkpoint: a few seconds ago (unsaved changes)

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[File] [New] [Cell] [Run] [Kernel] [Widgets] [Help] Trusted

```
V3      -3.46034e+03
V4      2.234678e+03
V5      -1.550403e+03
V6      -6.876865e+02
V7      -2.739816e+03
V8      2.807529e+02
V9      -1.269912e+03
V10     -2.793026e+03
V11     1.869685e+03
V12     -3.079621e+03
V13     -5.379224e+01
V14     -3.430088e+03
V15     -4.572094e+01
V16     -2.036853e+03
V17     -3.279592e+03
V18     -1.105184e+03
V19     3.348844e+02
V20     1.831811e+02
V21     3.510855e+02
V22     6.912050e+00
V23     -1.983152e+01
V24     -5.172411e+01
V25     2.039285e+01
V26     2.541088e+01
V27     8.392280e+01
V28     3.722831e+01
Amount   6.012797e+04
Class    4.920000e+02
dtype: float64
```





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In [27]: `fraud = data.loc[data['Class'] == 1]  
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In [33]: `len(fraud)`

Out[33]: `492`

In [34]: `len(normal)`

Out[34]: `284315`

In [38]: `from sklearn import linear_model  
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