

# EDA and Similarity of Transactions on CreditCardFraudDetection

February 7, 2018

## 0.1 Kaggle Data Set - Credit Card Fraud

0.1.1 The datasets contains transactions made by credit cards in September 2013 by european cardholders.

## 0.2 Dataset Information:

- \* Number of Instances: 284,807
- \* Number of Attributes: 31 (including the class attribute)
- \* Attribute Information:
- \* Features V1, V2, ... V28 are the principal components obtained with PCA.
- \* The only features which have not been transformed with PCA are 'Time' and 'Amount'.
- \* Feature 'Time' contains the seconds elapsed between each transaction and the first transaction in the dataset.

### 0.2.1 Class (class attribute):

- \* Feature 'Class' is the response variable and it takes value 1 in case of fraud and 0 otherwise.
  - 1 = Fraud Transaction
  - 0 = Normal Transaction

0.2.2 All the remaining details regarding the data set can be found in the below link.

### 0.2.3 CreditCardFraud

```
In [28]: import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import numpy as np
from sklearn.metrics.pairwise import cosine_similarity

%matplotlib inline

In [31]: #download the data set from
#https://www.kaggle.com/dalpozz/creditcardfraud/data
# load the data set
data=pd.read_csv("creditcard.csv")
```

```
In [32]: data.shape
```

```
Out[32]: (284807, 31)
```

```
In [33]: data.head()
```

```
Out[33]:
```

	Time	V1	V2	V3	V4	V5	V6	V7	\
0	0.0	-1.359807	-0.072781	2.536347	1.378155	-0.338321	0.462388	0.239599	
1	0.0	1.191857	0.266151	0.166480	0.448154	0.060018	-0.082361	-0.078803	
2	1.0	-1.358354	-1.340163	1.773209	0.379780	-0.503198	1.800499	0.791461	
3	1.0	-0.966272	-0.185226	1.792993	-0.863291	-0.010309	1.247203	0.237609	
4	2.0	-1.158233	0.877737	1.548718	0.403034	-0.407193	0.095921	0.592941	

	V8	V9	...	V21	V22	V23	V24	\
0	0.098698	0.363787	...	-0.018307	0.277838	-0.110474	0.066928	
1	0.085102	-0.255425	...	-0.225775	-0.638672	0.101288	-0.339846	
2	0.247676	-1.514654	...	0.247998	0.771679	0.909412	-0.689281	
3	0.377436	-1.387024	...	-0.108300	0.005274	-0.190321	-1.175575	
4	-0.270533	0.817739	...	-0.009431	0.798278	-0.137458	0.141267	

	V25	V26	V27	V28	Amount	Class
0	0.128539	-0.189115	0.133558	-0.021053	149.62	0
1	0.167170	0.125895	-0.008983	0.014724	2.69	0
2	-0.327642	-0.139097	-0.055353	-0.059752	378.66	0
3	0.647376	-0.221929	0.062723	0.061458	123.50	0
4	-0.206010	0.502292	0.219422	0.215153	69.99	0

[5 rows x 31 columns]

```
In [6]: #how many transactions are fraud
data["Class"].value_counts()
```

```
Out[6]: 0    284315
        1     492
        Name: Class, dtype: int64
```

**Class label:**

- label 0 - **Normal transactions** count is **284315**.
- label 1 - **Fraud transactions** count is **492**.

Clearly it is an **imbalanced dataset**.

```
In [7]: # statistics
data.describe()
```

```
Out[7]:
```

	Time	V1	V2	V3	V4	\
count	284807.000000	2.848070e+05	2.848070e+05	2.848070e+05	2.848070e+05	
mean	94813.859575	3.919560e-15	5.688174e-16	-8.769071e-15	2.782312e-15	

std	47488.145955	1.958696e+00	1.651309e+00	1.516255e+00	1.415869e+00
min	0.000000	-5.640751e+01	-7.271573e+01	-4.832559e+01	-5.683171e+00
25%	54201.500000	-9.203734e-01	-5.985499e-01	-8.903648e-01	-8.486401e-01
50%	84692.000000	1.810880e-02	6.548556e-02	1.798463e-01	-1.984653e-02
75%	139320.500000	1.315642e+00	8.037239e-01	1.027196e+00	7.433413e-01
max	172792.000000	2.454930e+00	2.205773e+01	9.382558e+00	1.687534e+01

	V5	V6	V7	V8	V9 \
count	2.848070e+05	2.848070e+05	2.848070e+05	2.848070e+05	2.848070e+05
mean	-1.552563e-15	2.010663e-15	-1.694249e-15	-1.927028e-16	-3.137024e-15
std	1.380247e+00	1.332271e+00	1.237094e+00	1.194353e+00	1.098632e+00
min	-1.137433e+02	-2.616051e+01	-4.355724e+01	-7.321672e+01	-1.343407e+01
25%	-6.915971e-01	-7.682956e-01	-5.540759e-01	-2.086297e-01	-6.430976e-01
50%	-5.433583e-02	-2.741871e-01	4.010308e-02	2.235804e-02	-5.142873e-02
75%	6.119264e-01	3.985649e-01	5.704361e-01	3.273459e-01	5.971390e-01
max	3.480167e+01	7.330163e+01	1.205895e+02	2.000721e+01	1.559499e+01

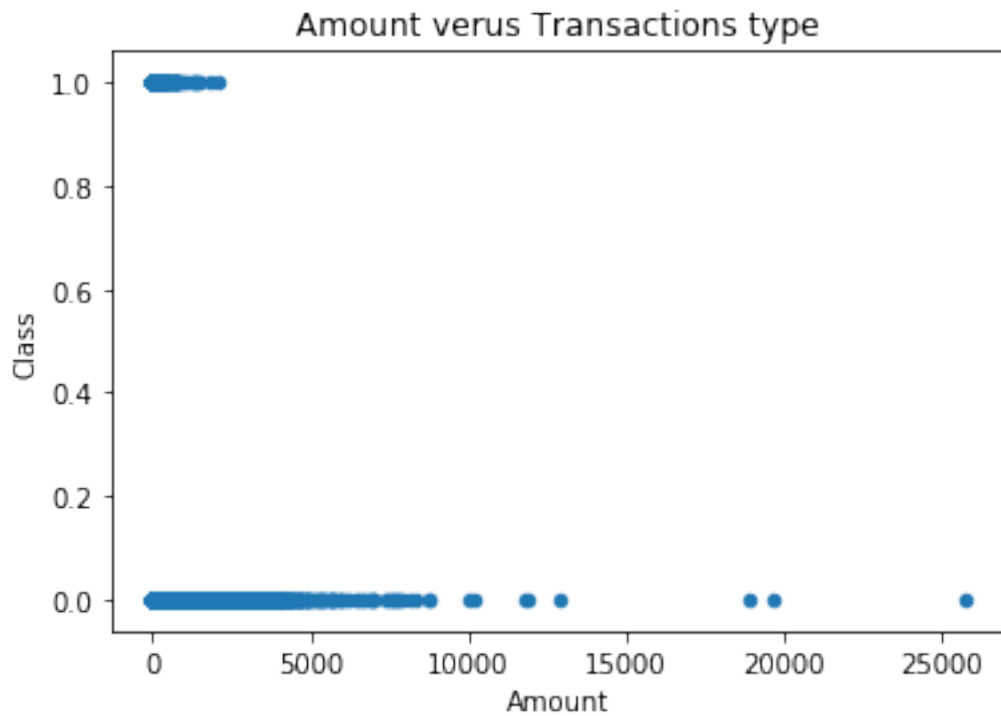
	...	V21	V22	V23	V24 \
count	...	2.848070e+05	2.848070e+05	2.848070e+05	2.848070e+05
mean	...	1.537294e-16	7.959909e-16	5.367590e-16	4.458112e-15
std	...	7.345240e-01	7.257016e-01	6.244603e-01	6.056471e-01
min	...	-3.483038e+01	-1.093314e+01	-4.480774e+01	-2.836627e+00
25%	...	-2.283949e-01	-5.423504e-01	-1.618463e-01	-3.545861e-01
50%	...	-2.945017e-02	6.781943e-03	-1.119293e-02	4.097606e-02
75%	...	1.863772e-01	5.285536e-01	1.476421e-01	4.395266e-01
max	...	2.720284e+01	1.050309e+01	2.252841e+01	4.584549e+00

	V25	V26	V27	V28	Amount \
count	2.848070e+05	2.848070e+05	2.848070e+05	2.848070e+05	284807.000000
mean	1.453003e-15	1.699104e-15	-3.660161e-16	-1.206049e-16	88.349619
std	5.212781e-01	4.822270e-01	4.036325e-01	3.300833e-01	250.120109
min	-1.029540e+01	-2.604551e+00	-2.256568e+01	-1.543008e+01	0.000000
25%	-3.171451e-01	-3.269839e-01	-7.083953e-02	-5.295979e-02	5.600000
50%	1.659350e-02	-5.213911e-02	1.342146e-03	1.124383e-02	22.000000
75%	3.507156e-01	2.409522e-01	9.104512e-02	7.827995e-02	77.165000
max	7.519589e+00	3.517346e+00	3.161220e+01	3.384781e+01	25691.160000

	Class
count	284807.000000
mean	0.001727
std	0.041527
min	0.000000
25%	0.000000
50%	0.000000
75%	0.000000
max	1.000000

[8 rows x 31 columns]

```
In [8]: # lets plot plain scatter plot considering Amount and Class
data.plot(kind='scatter', x='Amount', y='Class', title='Amount verus Transactions type')
plt.show()
```

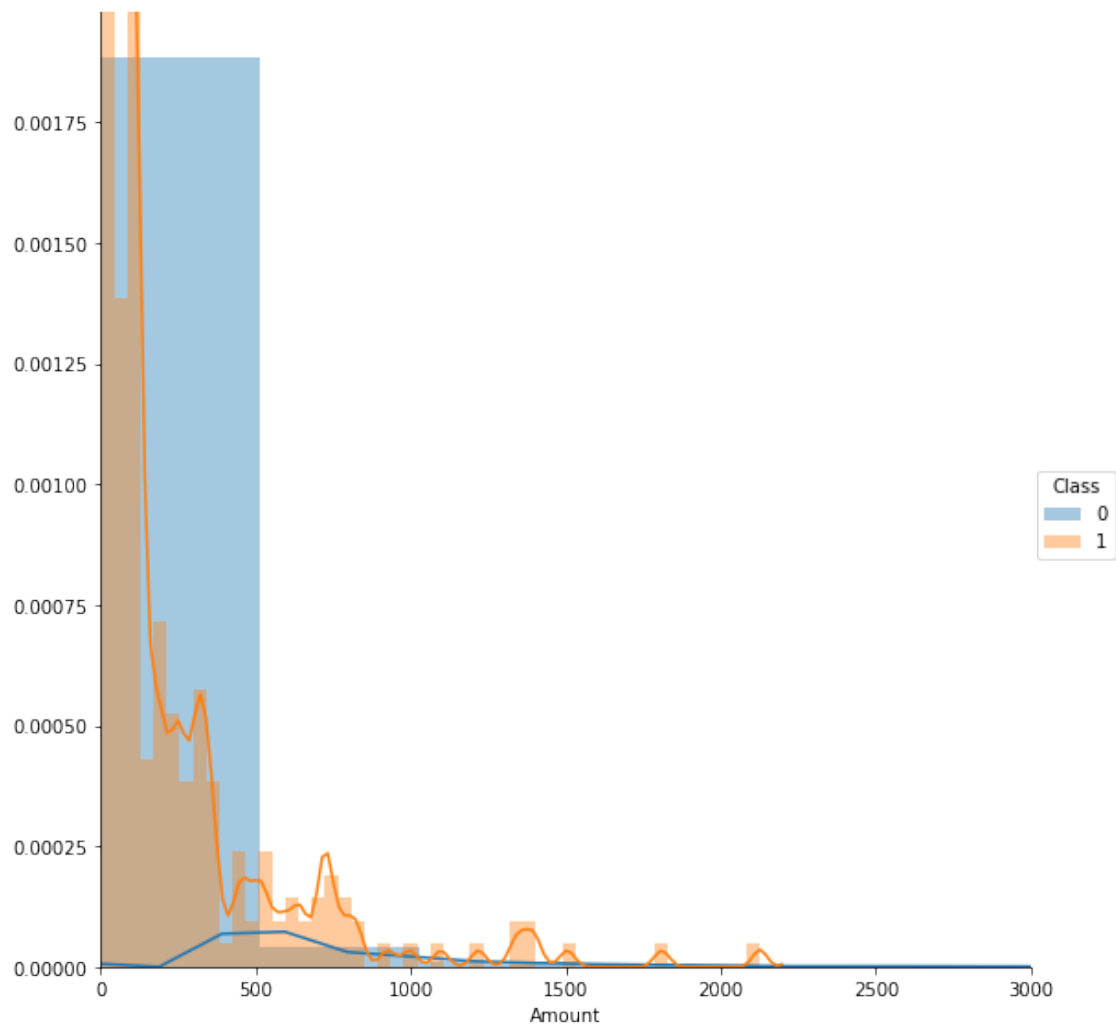


#### 0.2.4 Observation:

- 1) We can see from the above Scatter plot that **most of the transaction amounts are between 0 to 2500 for both normal and fraud.**

**Let us check fraud Amount versus normal Amount distrubutions**

```
In [9]: g=sns.FacetGrid(data, hue='Class', size=8)
plot=g.map(sns.distplot,"Amount").add_legend()
g = g.set(xlim=(0,3000))
```

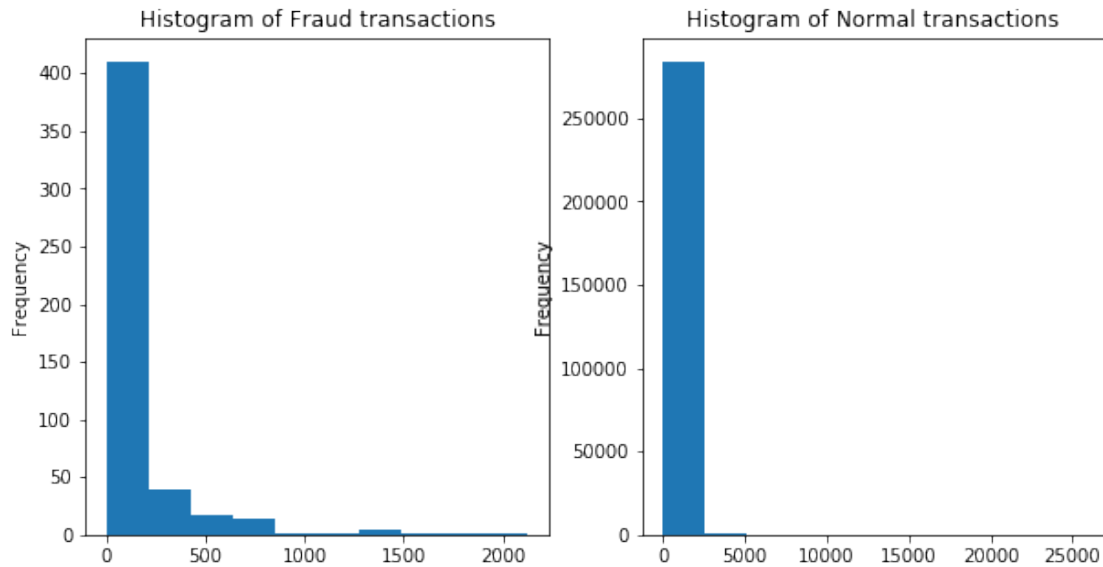


In [10]: *#Divide the dataset according to the label FraudTransactions and Normal Transactions*  
*# Fraud means Class=1 and Normal means status =0*

```
fraud=data.loc[data["Class"]==1]
normal=data.loc[data["Class"]==0]
```

```
In [11]: plt.figure(figsize=(10,5))
plt.subplot(121)
fraud.Amount.plot.hist(title="Histogram of Fraud transactions")
plt.subplot(122)
normal.Amount.plot.hist(title="Histogram of Normal transactions")
```

Out[11]: <matplotlib.axes.\_subplots.AxesSubplot at 0x10fca2da0>



```
In [12]: print("Summary Statistics of fraud transactions:")
         fraud.describe().Amount
```

Summary Statistics of fraud transactions:

```
Out[12]: count      492.000000
         mean       122.211321
         std       256.683288
         min         0.000000
         25%         1.000000
         50%         9.250000
         75%        105.890000
         max       2125.870000
         Name: Amount, dtype: float64
```

```
In [13]: print("Summary Statistics of Normal transactions:")
         normal.describe().Amount
```

Summary Statistics of Normal transactions:

```
Out[13]: count    284315.000000
         mean       88.291022
         std       250.105092
         min         0.000000
         25%         5.650000
         50%        22.000000
         75%        77.050000
         max     25691.160000
         Name: Amount, dtype: float64
```

### 0.2.5 Observation:

From the above plots and Statistics we can see that **fraud transactions amount on average is higher than normal transactions amount though absolute amount for normal transactions is high**. Based on this we cannot simply come up with a condition on amount to detect a fraud transaction.

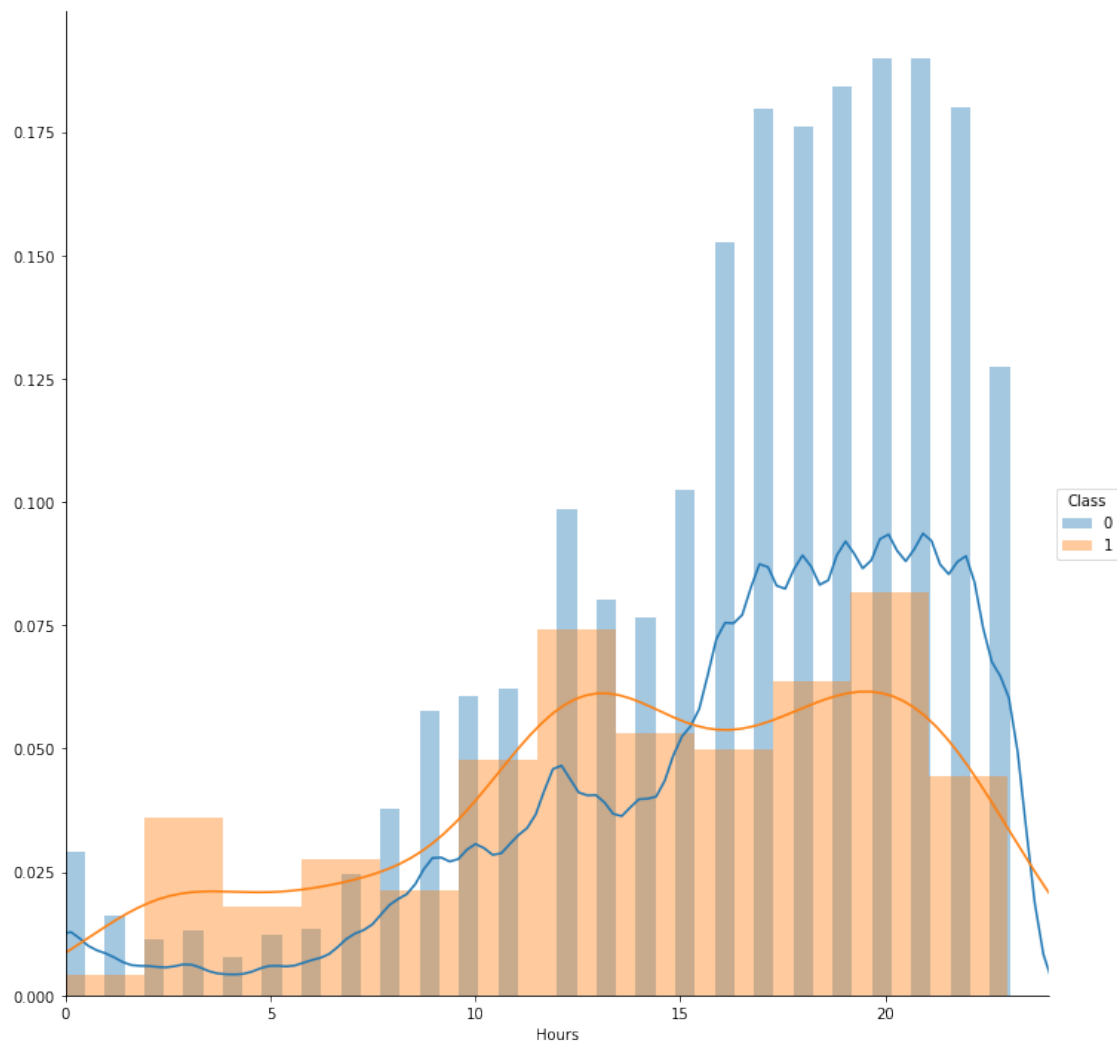
### 0.2.6 Let us Analyze fraud and normal transactions with respect to time - Though each transaction is different just out of curiosity, am checking fraud transactions occurrence with respect to time on two days

```
In [14]: # DataSet contains two days transactions.
        # Feature 'Time' contains the seconds elapsed between each transaction and the first
        # transaction in the dataset.let us convert time in seconds to hours of a day
        dataSubset = data[['Time', 'Amount', 'Class']].copy()

In [15]: # Get rid of $ and , in the SAL-RATE, then convert it to a float
        def seconds_Hour_Coversion(seconds):
            hours = seconds/(60*60) ## for conversion of seconds to hours.
            if hours>24:
                ## if it is more than 24 hours then divide it by 2 as max number of hours is 48.
                hours= hours/2
                return int(hours)
            else:
                return int(hours)

In [16]: # Save the result in a new column
        dataSubset['Hours'] = dataSubset['Time'].apply(seconds_Hour_Coversion)

In [17]: g=sns.FacetGrid(dataSubset, hue='Class', size=10)
        plot=g.map(sns.distplot,"Hours").add_legend()
        g = g.set(xlim=(0,24))
```



```
In [18]: #Divide the data set according to the label FraudTransactions and Normal Transactions
# Fraud means Class=1 and Normal means status =0
frauddata=dataSubset.loc[data["Class"]==1]
normaldata=dataSubset.loc[data["Class"]==0]
```

```
In [19]: frauddata.describe()
```

```
Out [19]:
```

	Time	Amount	Class	Hours
count	492.000000	492.000000	492.0	492.000000
mean	80746.806911	122.211321	1.0	14.313008
std	47835.365138	256.683288	0.0	5.928253
min	406.000000	0.000000	1.0	0.000000
25%	41241.500000	1.000000	1.0	11.000000
50%	75568.500000	9.250000	1.0	14.500000
75%	128483.000000	105.890000	1.0	19.000000
max	170348.000000	2125.870000	1.0	23.000000

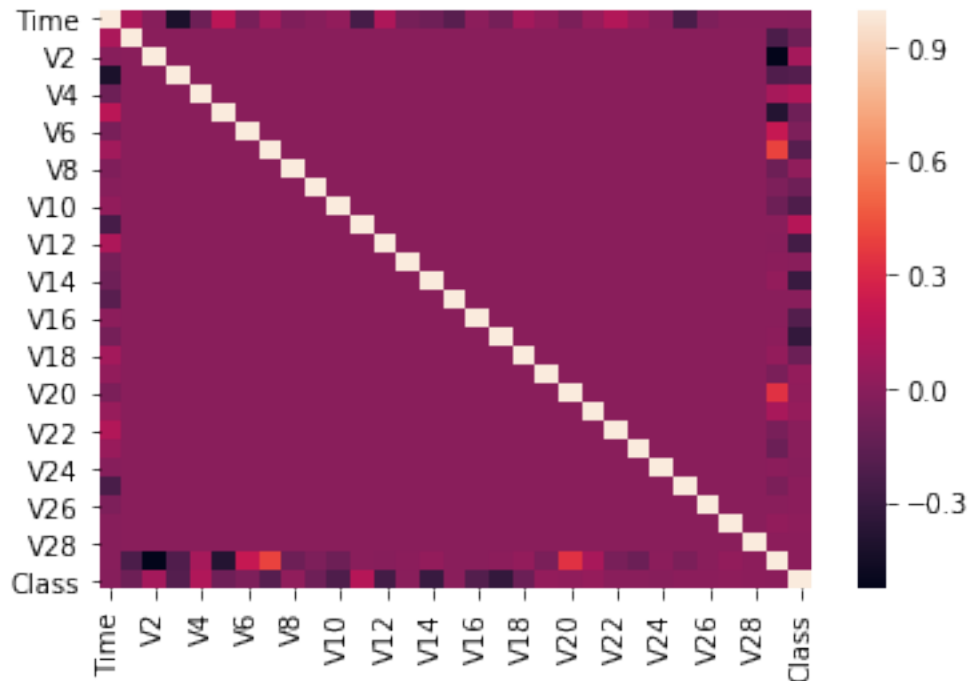


### 0.2.7 Observation:

- 1) During the **early hours** i.e at (2 to 3 AM) there are **more fraud transactions when compared with normal transactions** - may be more chance of occurring during that time.

```
In [20]: #let us plot a heat map for correlation of the features
sns.heatmap(data.corr())
```

```
Out[20]: <matplotlib.axes._subplots.AxesSubplot at 0x113c73860>
```



### 0.2.8 Observation:

- 1) All most all the features are **uncorrelated**.

## 0.3 Cosine Similarity of Transactions:

1) Extract 100 Samples from the dataSet.

2) For every transaction in the sample top 10 transactions in the dataset which have the lowest similarity(i,j).

```
In [34]: ## let us take 100 samples from the dataset using train_test_split without missing
# class distrubution in the original dataset.
from sklearn.model_selection import train_test_split
X_train,X_test,y_train,y_test = train_test_split(data.loc[:, data.columns != 'Class']
```

```

data['Class'], test_size=0.00035, random_state=42)
sample = pd.concat([X_test, y_test], axis=1)
sample.shape

```

Out [34]: (100, 31)

```

In [35]: # Computing the Similarity
similarity=cosine_similarity(sample)

```

```

In [36]: # rename the index and name it as TransactionId
sample.index.name = 'TransactionId'
sample.head()

```

```

Out [36]:
      TransactionId  Time      V1      V2      V3      V4      V5 \
43428      41505.0 -16.526507  8.584972 -18.649853  9.505594 -13.793819
49906      44261.0  0.339812 -2.743745 -0.134070 -1.385729 -1.451413
29474      35484.0  1.399590 -0.590701  0.168619 -1.029950 -0.539806
276481     167123.0 -0.432071  1.647895 -1.669361 -0.349504  0.785785
278846     168473.0  2.014160 -0.137394 -1.015839  0.327269 -0.182179

      TransactionId  V6      V7      V8      V9  ...      V21 \
43428      -2.832404 -16.701694  7.517344 -8.507059  ...      1.190739
49906      1.015887 -0.524379  0.224060  0.899746  ...     -0.213436
29474      0.040444 -0.712567  0.002299 -0.971747  ...      0.102398
276481     -0.630647  0.276990  0.586025 -0.484715  ...      0.358932
278846     -0.956571  0.043241 -0.160746  0.363241  ...     -0.238644

      TransactionId  V22      V23      V24      V25      V26      V27 \
43428     -1.127670 -2.358579  0.673461 -1.413700 -0.462762 -2.018575
49906     -0.942525 -0.526819 -1.156992  0.311211 -0.746647  0.040996
29474      0.168269 -0.166639 -0.810250  0.505083 -0.232340  0.011409
276481      0.873663 -0.178642 -0.017171 -0.207392 -0.157756 -0.237386
278846     -0.616400  0.347045  0.061561 -0.360196  0.174730 -0.078043

      TransactionId  V28  Amount  Class
43428     -1.042804  364.19      1
49906      0.102038  520.12      0
29474      0.004634   31.00      0
276481      0.001934    1.50      0
278846     -0.070571    0.89      0

```

[5 rows x 31 columns]

```

In [39]: def printResult(transaction1,first10pairs,sample,dict):
          x=transaction1[1][30]

```

```

y=transaction1[0]
s1='For the transaction id = '+ '{:d}'.format(y) + ', and Class = ' + \
    '{0:.5g}'.format(x)
print (s1 +"\n")
print ('Similar transactions are :'+ '\n')
for k in first10pairs:
    printSimilarity(k,dict[k],sample)
print ('-----'+"\n")

def printSimilarity(transactionId,similarity,sample):

    for transaction in sample.iterrows():
        if transaction[0] == transactionId:
            x=transaction[1][30]
            s=similarity
            y=transactionId
            print ("Class = " + '{0:.5g}'.format(x) + ", Similarity = "+\
                '{:f}'.format(s)+ ", transactionId = "+'{:d}'.format(y)+"\n")

```

```

In [38]: import operator
import itertools
i=-1;
dict={}
for transaction1 in sample.iterrows() :
    i=i+1
    j=0
    for transaction2 in sample.iterrows():
        if i is not j:
            dict[transaction2[0]] = similarity[i][j]
        j=j+1

    if dict :
        sorted_dict = sorted(dict, key=dict.__getitem__)[:10]
        printResult(transaction1,sorted_dict,sample,dict)
        dict.clear()

```

For the transaction id = 43428, and Class = 1

Similar transactions are :

Class = 0, Similarity = 0.999612, transactionId = 21934

Class = 0, Similarity = 0.999872, transactionId = 219257

Class = 0, Similarity = 0.999961, transactionId = 15816

Class = 0, Similarity = 0.999961, transactionId = 278846  
Class = 0, Similarity = 0.999961, transactionId = 276741  
Class = 0, Similarity = 0.999961, transactionId = 257395  
Class = 0, Similarity = 0.999961, transactionId = 209862  
Class = 0, Similarity = 0.999961, transactionId = 158290  
Class = 0, Similarity = 0.999961, transactionId = 276481  
Class = 0, Similarity = 0.999961, transactionId = 149100

-----

For the transaction id = 49906, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999691, transactionId = 21934  
Class = 0, Similarity = 0.999916, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 15816  
Class = 0, Similarity = 0.999931, transactionId = 276741  
Class = 0, Similarity = 0.999931, transactionId = 278846  
Class = 0, Similarity = 0.999931, transactionId = 257395  
Class = 0, Similarity = 0.999931, transactionId = 209862  
Class = 0, Similarity = 0.999931, transactionId = 158290  
Class = 0, Similarity = 0.999931, transactionId = 276481  
Class = 0, Similarity = 0.999931, transactionId = 149100

-----

For the transaction id = 29474, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999361, transactionId = 21934

Class = 0, Similarity = 0.999716, transactionId = 219257  
Class = 0, Similarity = 0.999941, transactionId = 49906  
Class = 0, Similarity = 0.999959, transactionId = 35730  
Class = 1, Similarity = 0.999968, transactionId = 43428  
Class = 0, Similarity = 0.999980, transactionId = 38442  
Class = 0, Similarity = 0.999985, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 276481, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 278846, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 101565, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999383, transactionId = 21934  
Class = 0, Similarity = 0.999730, transactionId = 219257  
Class = 0, Similarity = 0.999947, transactionId = 49906  
Class = 0, Similarity = 0.999964, transactionId = 35730  
Class = 1, Similarity = 0.999973, transactionId = 43428  
Class = 0, Similarity = 0.999984, transactionId = 38442  
Class = 0, Similarity = 0.999988, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 80419  
Class = 0, Similarity = 0.999997, transactionId = 36749  
Class = 0, Similarity = 0.999999, transactionId = 15816

-----  
For the transaction id = 260880, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999334, transactionId = 21934  
Class = 0, Similarity = 0.999697, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 214337, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419

Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 201575, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 81055, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999392, transactionId = 21934  
Class = 0, Similarity = 0.999736, transactionId = 219257  
Class = 0, Similarity = 0.999950, transactionId = 49906  
Class = 0, Similarity = 0.999966, transactionId = 35730  
Class = 1, Similarity = 0.999974, transactionId = 43428  
Class = 0, Similarity = 0.999985, transactionId = 38442



Class = 0, Similarity = 0.999989, transactionId = 105030

Class = 0, Similarity = 0.999998, transactionId = 80419

Class = 0, Similarity = 0.999998, transactionId = 36749

Class = 0, Similarity = 0.999998, transactionId = 15816

-----

For the transaction id = 134976, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999349, transactionId = 21934

Class = 0, Similarity = 0.999708, transactionId = 219257

Class = 0, Similarity = 0.999937, transactionId = 49906

Class = 0, Similarity = 0.999956, transactionId = 35730

Class = 1, Similarity = 0.999965, transactionId = 43428

Class = 0, Similarity = 0.999978, transactionId = 38442

Class = 0, Similarity = 0.999983, transactionId = 105030

Class = 0, Similarity = 0.999994, transactionId = 80419

Class = 0, Similarity = 0.999994, transactionId = 36749

Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 237701, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999335, transactionId = 21934

Class = 0, Similarity = 0.999698, transactionId = 219257

Class = 0, Similarity = 0.999933, transactionId = 49906

Class = 0, Similarity = 0.999952, transactionId = 35730

Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 256836, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999366, transactionId = 21934  
Class = 0, Similarity = 0.999718, transactionId = 219257  
Class = 0, Similarity = 0.999942, transactionId = 49906  
Class = 0, Similarity = 0.999960, transactionId = 35730  
Class = 1, Similarity = 0.999969, transactionId = 43428  
Class = 0, Similarity = 0.999981, transactionId = 38442  
Class = 0, Similarity = 0.999985, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 80419  
Class = 0, Similarity = 0.999996, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 97650, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999353, transactionId = 21934  
Class = 0, Similarity = 0.999710, transactionId = 219257

Class = 0, Similarity = 0.999938, transactionId = 49906  
Class = 0, Similarity = 0.999957, transactionId = 35730  
Class = 1, Similarity = 0.999966, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999983, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 158290, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 246697, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 68279, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 267585, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999336, transactionId = 21934  
Class = 0, Similarity = 0.999698, transactionId = 219257  
Class = 0, Similarity = 0.999933, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 26525, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999409, transactionId = 21934  
Class = 0, Similarity = 0.999747, transactionId = 219257  
Class = 0, Similarity = 0.999955, transactionId = 49906  
Class = 0, Similarity = 0.999970, transactionId = 35730  
Class = 1, Similarity = 0.999978, transactionId = 43428  
Class = 0, Similarity = 0.999988, transactionId = 38442  
Class = 0, Similarity = 0.999991, transactionId = 105030  
Class = 0, Similarity = 0.999998, transactionId = 15816  
Class = 0, Similarity = 0.999998, transactionId = 276741

Class = 0, Similarity = 0.999998, transactionId = 278846

-----

For the transaction id = 74422, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999345, transactionId = 21934

Class = 0, Similarity = 0.999704, transactionId = 219257

Class = 0, Similarity = 0.999936, transactionId = 49906

Class = 0, Similarity = 0.999955, transactionId = 35730

Class = 1, Similarity = 0.999964, transactionId = 43428

Class = 0, Similarity = 0.999977, transactionId = 38442

Class = 0, Similarity = 0.999982, transactionId = 105030

Class = 0, Similarity = 0.999994, transactionId = 80419

Class = 0, Similarity = 0.999994, transactionId = 36749

Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 206357, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999342, transactionId = 21934

Class = 0, Similarity = 0.999703, transactionId = 219257

Class = 0, Similarity = 0.999935, transactionId = 49906

Class = 0, Similarity = 0.999954, transactionId = 35730

Class = 1, Similarity = 0.999964, transactionId = 43428

Class = 0, Similarity = 0.999977, transactionId = 38442

Class = 0, Similarity = 0.999982, transactionId = 105030

Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 257395, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 283656, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428

Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 231156, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999336, transactionId = 21934  
Class = 0, Similarity = 0.999698, transactionId = 219257  
Class = 0, Similarity = 0.999933, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 38442, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999566, transactionId = 21934  
Class = 0, Similarity = 0.999846, transactionId = 219257  
Class = 0, Similarity = 0.999974, transactionId = 15816



Class = 0, Similarity = 0.999974, transactionId = 278846  
Class = 0, Similarity = 0.999974, transactionId = 276741  
Class = 0, Similarity = 0.999974, transactionId = 257395  
Class = 0, Similarity = 0.999974, transactionId = 209862  
Class = 0, Similarity = 0.999974, transactionId = 276481  
Class = 0, Similarity = 0.999974, transactionId = 158290  
Class = 0, Similarity = 0.999974, transactionId = 149100

-----

For the transaction id = 225485, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999357, transactionId = 21934  
Class = 0, Similarity = 0.999713, transactionId = 219257  
Class = 0, Similarity = 0.999940, transactionId = 49906  
Class = 0, Similarity = 0.999958, transactionId = 35730  
Class = 1, Similarity = 0.999967, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999984, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 92410, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999379, transactionId = 21934

Class = 0, Similarity = 0.999727, transactionId = 219257  
Class = 0, Similarity = 0.999946, transactionId = 49906  
Class = 0, Similarity = 0.999963, transactionId = 35730  
Class = 1, Similarity = 0.999972, transactionId = 43428  
Class = 0, Similarity = 0.999983, transactionId = 38442  
Class = 0, Similarity = 0.999987, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 80419  
Class = 0, Similarity = 0.999997, transactionId = 36749  
Class = 0, Similarity = 0.999999, transactionId = 187045

-----  
For the transaction id = 10828, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999373, transactionId = 21934  
Class = 0, Similarity = 0.999723, transactionId = 219257  
Class = 0, Similarity = 0.999944, transactionId = 49906  
Class = 0, Similarity = 0.999962, transactionId = 35730  
Class = 1, Similarity = 0.999970, transactionId = 43428  
Class = 0, Similarity = 0.999982, transactionId = 38442  
Class = 0, Similarity = 0.999986, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 80419  
Class = 0, Similarity = 0.999996, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 61461, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999346, transactionId = 21934  
Class = 0, Similarity = 0.999705, transactionId = 219257  
Class = 0, Similarity = 0.999936, transactionId = 49906  
Class = 0, Similarity = 0.999955, transactionId = 35730  
Class = 1, Similarity = 0.999965, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 134354, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999372, transactionId = 21934  
Class = 0, Similarity = 0.999723, transactionId = 219257  
Class = 0, Similarity = 0.999944, transactionId = 49906  
Class = 0, Similarity = 0.999961, transactionId = 35730  
Class = 1, Similarity = 0.999970, transactionId = 43428  
Class = 0, Similarity = 0.999982, transactionId = 38442  
Class = 0, Similarity = 0.999986, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 80419  
Class = 0, Similarity = 0.999996, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 45265, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999362, transactionId = 21934  
Class = 0, Similarity = 0.999716, transactionId = 219257  
Class = 0, Similarity = 0.999941, transactionId = 49906  
Class = 0, Similarity = 0.999959, transactionId = 35730  
Class = 1, Similarity = 0.999968, transactionId = 43428  
Class = 0, Similarity = 0.999980, transactionId = 38442  
Class = 0, Similarity = 0.999985, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 151374, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419

Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 219257, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999694, transactionId = 15816  
Class = 0, Similarity = 0.999695, transactionId = 278846  
Class = 0, Similarity = 0.999695, transactionId = 276741  
Class = 0, Similarity = 0.999695, transactionId = 257395  
Class = 0, Similarity = 0.999695, transactionId = 209862  
Class = 0, Similarity = 0.999695, transactionId = 158290  
Class = 0, Similarity = 0.999695, transactionId = 276481  
Class = 0, Similarity = 0.999695, transactionId = 149100  
Class = 0, Similarity = 0.999695, transactionId = 233533  
Class = 0, Similarity = 0.999695, transactionId = 71345

-----  
For the transaction id = 49275, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999411, transactionId = 21934  
Class = 0, Similarity = 0.999749, transactionId = 219257  
Class = 0, Similarity = 0.999955, transactionId = 49906  
Class = 0, Similarity = 0.999971, transactionId = 35730  
Class = 1, Similarity = 0.999978, transactionId = 43428  
Class = 0, Similarity = 0.999988, transactionId = 38442

Class = 0, Similarity = 0.999992, transactionId = 105030

Class = 0, Similarity = 0.999997, transactionId = 15816

Class = 0, Similarity = 0.999997, transactionId = 278846

Class = 0, Similarity = 0.999997, transactionId = 276741

-----

For the transaction id = 113769, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999350, transactionId = 21934

Class = 0, Similarity = 0.999708, transactionId = 219257

Class = 0, Similarity = 0.999937, transactionId = 49906

Class = 0, Similarity = 0.999956, transactionId = 35730

Class = 1, Similarity = 0.999965, transactionId = 43428

Class = 0, Similarity = 0.999978, transactionId = 38442

Class = 0, Similarity = 0.999983, transactionId = 105030

Class = 0, Similarity = 0.999994, transactionId = 80419

Class = 0, Similarity = 0.999994, transactionId = 36749

Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 205650, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934

Class = 0, Similarity = 0.999696, transactionId = 219257

Class = 0, Similarity = 0.999932, transactionId = 49906

Class = 0, Similarity = 0.999951, transactionId = 35730

Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 250467, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999357, transactionId = 21934  
Class = 0, Similarity = 0.999712, transactionId = 219257  
Class = 0, Similarity = 0.999939, transactionId = 49906  
Class = 0, Similarity = 0.999958, transactionId = 35730  
Class = 1, Similarity = 0.999967, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999984, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 194599, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999340, transactionId = 21934  
Class = 0, Similarity = 0.999701, transactionId = 219257

Class = 0, Similarity = 0.999934, transactionId = 49906  
Class = 0, Similarity = 0.999953, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 266912, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999337, transactionId = 21934  
Class = 0, Similarity = 0.999699, transactionId = 219257  
Class = 0, Similarity = 0.999933, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 228215, and Class = 0

Similar transactions are :



Class = 0, Similarity = 0.999350, transactionId = 21934  
Class = 0, Similarity = 0.999708, transactionId = 219257  
Class = 0, Similarity = 0.999937, transactionId = 49906  
Class = 0, Similarity = 0.999956, transactionId = 35730  
Class = 1, Similarity = 0.999966, transactionId = 43428  
Class = 0, Similarity = 0.999978, transactionId = 38442  
Class = 0, Similarity = 0.999983, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 259706, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 149066, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999334, transactionId = 21934  
Class = 0, Similarity = 0.999697, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 68119, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999377, transactionId = 21934  
Class = 0, Similarity = 0.999726, transactionId = 219257  
Class = 0, Similarity = 0.999945, transactionId = 49906  
Class = 0, Similarity = 0.999963, transactionId = 35730  
Class = 1, Similarity = 0.999971, transactionId = 43428  
Class = 0, Similarity = 0.999983, transactionId = 38442  
Class = 0, Similarity = 0.999987, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 80419  
Class = 0, Similarity = 0.999997, transactionId = 36749

Class = 0, Similarity = 0.999999, transactionId = 187045

-----

For the transaction id = 225255, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999391, transactionId = 21934

Class = 0, Similarity = 0.999735, transactionId = 219257

Class = 0, Similarity = 0.999950, transactionId = 49906

Class = 0, Similarity = 0.999966, transactionId = 35730

Class = 1, Similarity = 0.999974, transactionId = 43428

Class = 0, Similarity = 0.999985, transactionId = 38442

Class = 0, Similarity = 0.999989, transactionId = 105030

Class = 0, Similarity = 0.999998, transactionId = 80419

Class = 0, Similarity = 0.999998, transactionId = 36749

Class = 0, Similarity = 0.999999, transactionId = 15816

-----

For the transaction id = 21934, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 15816

Class = 0, Similarity = 0.999330, transactionId = 278846

Class = 0, Similarity = 0.999330, transactionId = 276741

Class = 0, Similarity = 0.999330, transactionId = 257395

Class = 0, Similarity = 0.999330, transactionId = 209862

Class = 0, Similarity = 0.999330, transactionId = 276481

Class = 0, Similarity = 0.999330, transactionId = 158290

Class = 0, Similarity = 0.999330, transactionId = 149100

Class = 0, Similarity = 0.999330, transactionId = 233533

Class = 0, Similarity = 0.999330, transactionId = 71345

-----

For the transaction id = 105030, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999544, transactionId = 21934

Class = 0, Similarity = 0.999832, transactionId = 219257

Class = 0, Similarity = 0.999979, transactionId = 15816

Class = 0, Similarity = 0.999979, transactionId = 278846

Class = 0, Similarity = 0.999979, transactionId = 276741

Class = 0, Similarity = 0.999979, transactionId = 257395

Class = 0, Similarity = 0.999979, transactionId = 209862

Class = 0, Similarity = 0.999979, transactionId = 158290

Class = 0, Similarity = 0.999979, transactionId = 276481

Class = 0, Similarity = 0.999979, transactionId = 149100

-----

For the transaction id = 114027, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999335, transactionId = 21934

Class = 0, Similarity = 0.999698, transactionId = 219257

Class = 0, Similarity = 0.999933, transactionId = 49906

Class = 0, Similarity = 0.999952, transactionId = 35730

Class = 1, Similarity = 0.999962, transactionId = 43428

Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 178329, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 109526, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999336, transactionId = 21934  
Class = 0, Similarity = 0.999698, transactionId = 219257  
Class = 0, Similarity = 0.999933, transactionId = 49906

Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 32278, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999342, transactionId = 21934  
Class = 0, Similarity = 0.999703, transactionId = 219257  
Class = 0, Similarity = 0.999935, transactionId = 49906  
Class = 0, Similarity = 0.999954, transactionId = 35730  
Class = 1, Similarity = 0.999964, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 233533, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934

Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 76922, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 187045, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999433, transactionId = 21934  
Class = 0, Similarity = 0.999763, transactionId = 219257  
Class = 0, Similarity = 0.999961, transactionId = 49906  
Class = 0, Similarity = 0.999976, transactionId = 35730  
Class = 1, Similarity = 0.999982, transactionId = 43428  
Class = 0, Similarity = 0.999991, transactionId = 38442  
Class = 0, Similarity = 0.999994, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 15816  
Class = 0, Similarity = 0.999996, transactionId = 276741  
Class = 0, Similarity = 0.999996, transactionId = 278846

-----

For the transaction id = 149100, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045



-----  
For the transaction id = 133186, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 89165, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999340, transactionId = 21934  
Class = 0, Similarity = 0.999701, transactionId = 219257  
Class = 0, Similarity = 0.999934, transactionId = 49906  
Class = 0, Similarity = 0.999953, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419

Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 138728, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999427, transactionId = 21934  
Class = 0, Similarity = 0.999759, transactionId = 219257  
Class = 0, Similarity = 0.999960, transactionId = 49906  
Class = 0, Similarity = 0.999974, transactionId = 35730  
Class = 1, Similarity = 0.999981, transactionId = 43428  
Class = 0, Similarity = 0.999990, transactionId = 38442  
Class = 0, Similarity = 0.999993, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 15816  
Class = 0, Similarity = 0.999996, transactionId = 276741  
Class = 0, Similarity = 0.999996, transactionId = 278846

-----  
For the transaction id = 161808, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442

Class = 0, Similarity = 0.999980, transactionId = 105030

Class = 0, Similarity = 0.999992, transactionId = 80419

Class = 0, Similarity = 0.999992, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 15816, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934

Class = 0, Similarity = 0.999694, transactionId = 219257

Class = 0, Similarity = 0.999931, transactionId = 49906

Class = 0, Similarity = 0.999951, transactionId = 35730

Class = 1, Similarity = 0.999961, transactionId = 43428

Class = 0, Similarity = 0.999974, transactionId = 38442

Class = 0, Similarity = 0.999979, transactionId = 105030

Class = 0, Similarity = 0.999992, transactionId = 80419

Class = 0, Similarity = 0.999992, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 150994, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999335, transactionId = 21934

Class = 0, Similarity = 0.999698, transactionId = 219257

Class = 0, Similarity = 0.999933, transactionId = 49906

Class = 0, Similarity = 0.999952, transactionId = 35730

Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 79591, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999352, transactionId = 21934  
Class = 0, Similarity = 0.999709, transactionId = 219257  
Class = 0, Similarity = 0.999938, transactionId = 49906  
Class = 0, Similarity = 0.999956, transactionId = 35730  
Class = 1, Similarity = 0.999966, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999983, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 36749, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999465, transactionId = 21934  
Class = 0, Similarity = 0.999783, transactionId = 219257

Class = 0, Similarity = 0.999969, transactionId = 49906  
Class = 0, Similarity = 0.999982, transactionId = 35730  
Class = 1, Similarity = 0.999987, transactionId = 43428  
Class = 0, Similarity = 0.999992, transactionId = 15816  
Class = 0, Similarity = 0.999992, transactionId = 276741  
Class = 0, Similarity = 0.999992, transactionId = 278846  
Class = 0, Similarity = 0.999992, transactionId = 257395  
Class = 0, Similarity = 0.999992, transactionId = 209862

-----  
For the transaction id = 28828, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 232448, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999376, transactionId = 21934  
Class = 0, Similarity = 0.999725, transactionId = 219257  
Class = 0, Similarity = 0.999945, transactionId = 49906  
Class = 0, Similarity = 0.999962, transactionId = 35730  
Class = 1, Similarity = 0.999971, transactionId = 43428  
Class = 0, Similarity = 0.999983, transactionId = 38442  
Class = 0, Similarity = 0.999987, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 80419  
Class = 0, Similarity = 0.999997, transactionId = 36749  
Class = 0, Similarity = 0.999999, transactionId = 187045

-----

For the transaction id = 28195, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999338, transactionId = 21934  
Class = 0, Similarity = 0.999700, transactionId = 219257  
Class = 0, Similarity = 0.999934, transactionId = 49906  
Class = 0, Similarity = 0.999953, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 240146, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999419, transactionId = 21934  
Class = 0, Similarity = 0.999753, transactionId = 219257  
Class = 0, Similarity = 0.999957, transactionId = 49906  
Class = 0, Similarity = 0.999972, transactionId = 35730  
Class = 1, Similarity = 0.999980, transactionId = 43428  
Class = 0, Similarity = 0.999989, transactionId = 38442  
Class = 0, Similarity = 0.999992, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 15816  
Class = 0, Similarity = 0.999997, transactionId = 278846  
Class = 0, Similarity = 0.999997, transactionId = 276741

-----

For the transaction id = 240449, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 49296, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999374, transactionId = 21934

Class = 0, Similarity = 0.999724, transactionId = 219257

Class = 0, Similarity = 0.999944, transactionId = 49906

Class = 0, Similarity = 0.999962, transactionId = 35730

Class = 1, Similarity = 0.999971, transactionId = 43428

Class = 0, Similarity = 0.999982, transactionId = 38442

Class = 0, Similarity = 0.999986, transactionId = 105030

Class = 0, Similarity = 0.999996, transactionId = 80419

Class = 0, Similarity = 0.999996, transactionId = 36749

Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 14176, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999340, transactionId = 21934

Class = 0, Similarity = 0.999702, transactionId = 219257

Class = 0, Similarity = 0.999934, transactionId = 49906

Class = 0, Similarity = 0.999953, transactionId = 35730

Class = 1, Similarity = 0.999963, transactionId = 43428

Class = 0, Similarity = 0.999976, transactionId = 38442

Class = 0, Similarity = 0.999981, transactionId = 105030



Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 80419, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999465, transactionId = 21934  
Class = 0, Similarity = 0.999783, transactionId = 219257  
Class = 0, Similarity = 0.999969, transactionId = 49906  
Class = 0, Similarity = 0.999982, transactionId = 35730  
Class = 1, Similarity = 0.999987, transactionId = 43428  
Class = 0, Similarity = 0.999992, transactionId = 15816  
Class = 0, Similarity = 0.999992, transactionId = 276741  
Class = 0, Similarity = 0.999992, transactionId = 278846  
Class = 0, Similarity = 0.999992, transactionId = 257395  
Class = 0, Similarity = 0.999992, transactionId = 209862

-----  
For the transaction id = 210194, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999362, transactionId = 21934  
Class = 0, Similarity = 0.999716, transactionId = 219257  
Class = 0, Similarity = 0.999941, transactionId = 49906  
Class = 0, Similarity = 0.999959, transactionId = 35730  
Class = 1, Similarity = 0.999968, transactionId = 43428

Class = 0, Similarity = 0.999980, transactionId = 38442  
Class = 0, Similarity = 0.999985, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 177473, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 81436, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906

Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 104674, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 102058, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999341, transactionId = 21934

Class = 0, Similarity = 0.999702, transactionId = 219257  
Class = 0, Similarity = 0.999935, transactionId = 49906  
Class = 0, Similarity = 0.999954, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 237523, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999377, transactionId = 21934  
Class = 0, Similarity = 0.999726, transactionId = 219257  
Class = 0, Similarity = 0.999946, transactionId = 49906  
Class = 0, Similarity = 0.999963, transactionId = 35730  
Class = 1, Similarity = 0.999972, transactionId = 43428  
Class = 0, Similarity = 0.999983, transactionId = 38442  
Class = 0, Similarity = 0.999987, transactionId = 105030  
Class = 0, Similarity = 0.999997, transactionId = 80419  
Class = 0, Similarity = 0.999997, transactionId = 36749  
Class = 0, Similarity = 0.999999, transactionId = 187045

-----  
For the transaction id = 51750, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999352, transactionId = 21934  
Class = 0, Similarity = 0.999709, transactionId = 219257  
Class = 0, Similarity = 0.999938, transactionId = 49906  
Class = 0, Similarity = 0.999956, transactionId = 35730  
Class = 1, Similarity = 0.999966, transactionId = 43428  
Class = 0, Similarity = 0.999978, transactionId = 38442  
Class = 0, Similarity = 0.999983, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 93581, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934  
Class = 0, Similarity = 0.999697, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 228491, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999331, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 217792, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999373, transactionId = 21934  
Class = 0, Similarity = 0.999723, transactionId = 219257  
Class = 0, Similarity = 0.999944, transactionId = 49906  
Class = 0, Similarity = 0.999962, transactionId = 35730  
Class = 1, Similarity = 0.999971, transactionId = 43428  
Class = 0, Similarity = 0.999982, transactionId = 38442  
Class = 0, Similarity = 0.999986, transactionId = 105030  
Class = 0, Similarity = 0.999996, transactionId = 80419

Class = 0, Similarity = 0.999996, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----  
For the transaction id = 276741, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 71345, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442

Class = 0, Similarity = 0.999980, transactionId = 105030

Class = 0, Similarity = 0.999992, transactionId = 80419

Class = 0, Similarity = 0.999992, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 234744, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999333, transactionId = 21934

Class = 0, Similarity = 0.999696, transactionId = 219257

Class = 0, Similarity = 0.999932, transactionId = 49906

Class = 0, Similarity = 0.999951, transactionId = 35730

Class = 1, Similarity = 0.999961, transactionId = 43428

Class = 0, Similarity = 0.999975, transactionId = 38442

Class = 0, Similarity = 0.999980, transactionId = 105030

Class = 0, Similarity = 0.999993, transactionId = 80419

Class = 0, Similarity = 0.999993, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 7730, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999357, transactionId = 21934

Class = 0, Similarity = 0.999712, transactionId = 219257

Class = 0, Similarity = 0.999939, transactionId = 49906

Class = 0, Similarity = 0.999958, transactionId = 35730



Class = 1, Similarity = 0.999967, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999984, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

---

For the transaction id = 35730, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999644, transactionId = 21934  
Class = 0, Similarity = 0.999891, transactionId = 219257  
Class = 0, Similarity = 0.999951, transactionId = 15816  
Class = 0, Similarity = 0.999951, transactionId = 278846  
Class = 0, Similarity = 0.999951, transactionId = 276741  
Class = 0, Similarity = 0.999951, transactionId = 257395  
Class = 0, Similarity = 0.999951, transactionId = 209862  
Class = 0, Similarity = 0.999951, transactionId = 158290  
Class = 0, Similarity = 0.999951, transactionId = 276481  
Class = 0, Similarity = 0.999951, transactionId = 149100

---

For the transaction id = 24338, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999347, transactionId = 21934  
Class = 0, Similarity = 0.999706, transactionId = 219257

Class = 0, Similarity = 0.999936, transactionId = 49906  
Class = 0, Similarity = 0.999955, transactionId = 35730  
Class = 1, Similarity = 0.999965, transactionId = 43428  
Class = 0, Similarity = 0.999978, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 44942, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999345, transactionId = 21934  
Class = 0, Similarity = 0.999705, transactionId = 219257  
Class = 0, Similarity = 0.999936, transactionId = 49906  
Class = 0, Similarity = 0.999955, transactionId = 35730  
Class = 1, Similarity = 0.999964, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 80953, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999345, transactionId = 21934  
Class = 0, Similarity = 0.999705, transactionId = 219257  
Class = 0, Similarity = 0.999936, transactionId = 49906  
Class = 0, Similarity = 0.999955, transactionId = 35730  
Class = 1, Similarity = 0.999964, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----

For the transaction id = 212975, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999361, transactionId = 21934  
Class = 0, Similarity = 0.999715, transactionId = 219257  
Class = 0, Similarity = 0.999941, transactionId = 49906  
Class = 0, Similarity = 0.999959, transactionId = 35730  
Class = 1, Similarity = 0.999968, transactionId = 43428  
Class = 0, Similarity = 0.999980, transactionId = 38442  
Class = 0, Similarity = 0.999985, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 209862, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999979, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 91821, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999330, transactionId = 21934  
Class = 0, Similarity = 0.999695, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999974, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999992, transactionId = 80419  
Class = 0, Similarity = 0.999992, transactionId = 36749

Class = 0, Similarity = 0.999996, transactionId = 187045

-----

For the transaction id = 208257, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999357, transactionId = 21934

Class = 0, Similarity = 0.999712, transactionId = 219257

Class = 0, Similarity = 0.999939, transactionId = 49906

Class = 0, Similarity = 0.999958, transactionId = 35730

Class = 1, Similarity = 0.999967, transactionId = 43428

Class = 0, Similarity = 0.999979, transactionId = 38442

Class = 0, Similarity = 0.999984, transactionId = 105030

Class = 0, Similarity = 0.999995, transactionId = 80419

Class = 0, Similarity = 0.999995, transactionId = 36749

Class = 0, Similarity = 0.999998, transactionId = 187045

-----

For the transaction id = 185213, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999338, transactionId = 21934

Class = 0, Similarity = 0.999700, transactionId = 219257

Class = 0, Similarity = 0.999934, transactionId = 49906

Class = 0, Similarity = 0.999953, transactionId = 35730

Class = 1, Similarity = 0.999963, transactionId = 43428

Class = 0, Similarity = 0.999976, transactionId = 38442

Class = 0, Similarity = 0.999981, transactionId = 105030

Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

---

For the transaction id = 265204, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999354, transactionId = 21934  
Class = 0, Similarity = 0.999711, transactionId = 219257  
Class = 0, Similarity = 0.999939, transactionId = 49906  
Class = 0, Similarity = 0.999957, transactionId = 35730  
Class = 1, Similarity = 0.999966, transactionId = 43428  
Class = 0, Similarity = 0.999979, transactionId = 38442  
Class = 0, Similarity = 0.999983, transactionId = 105030  
Class = 0, Similarity = 0.999995, transactionId = 80419  
Class = 0, Similarity = 0.999995, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

---

For the transaction id = 188412, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999340, transactionId = 21934  
Class = 0, Similarity = 0.999701, transactionId = 219257  
Class = 0, Similarity = 0.999934, transactionId = 49906  
Class = 0, Similarity = 0.999953, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428

Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 11648, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999339, transactionId = 21934  
Class = 0, Similarity = 0.999701, transactionId = 219257  
Class = 0, Similarity = 0.999934, transactionId = 49906  
Class = 0, Similarity = 0.999953, transactionId = 35730  
Class = 1, Similarity = 0.999963, transactionId = 43428  
Class = 0, Similarity = 0.999976, transactionId = 38442  
Class = 0, Similarity = 0.999981, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 252178, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934  
Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999931, transactionId = 49906

Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 162203, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999343, transactionId = 21934  
Class = 0, Similarity = 0.999703, transactionId = 219257  
Class = 0, Similarity = 0.999935, transactionId = 49906  
Class = 0, Similarity = 0.999954, transactionId = 35730  
Class = 1, Similarity = 0.999964, transactionId = 43428  
Class = 0, Similarity = 0.999977, transactionId = 38442  
Class = 0, Similarity = 0.999982, transactionId = 105030  
Class = 0, Similarity = 0.999994, transactionId = 80419  
Class = 0, Similarity = 0.999994, transactionId = 36749  
Class = 0, Similarity = 0.999997, transactionId = 187045

-----  
For the transaction id = 221033, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999332, transactionId = 21934



Class = 0, Similarity = 0.999696, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999951, transactionId = 35730  
Class = 1, Similarity = 0.999961, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045

-----  
For the transaction id = 147106, and Class = 0

Similar transactions are :

Class = 0, Similarity = 0.999334, transactionId = 21934  
Class = 0, Similarity = 0.999697, transactionId = 219257  
Class = 0, Similarity = 0.999932, transactionId = 49906  
Class = 0, Similarity = 0.999952, transactionId = 35730  
Class = 1, Similarity = 0.999962, transactionId = 43428  
Class = 0, Similarity = 0.999975, transactionId = 38442  
Class = 0, Similarity = 0.999980, transactionId = 105030  
Class = 0, Similarity = 0.999993, transactionId = 80419  
Class = 0, Similarity = 0.999993, transactionId = 36749  
Class = 0, Similarity = 0.999996, transactionId = 187045