In [1]:

```
import pyodbc
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import glob
```

In [2]:

```
try:
    conn = pyodbc.connect(
        'Driver={SQL Server};'
        'Server=DESKTOP-VOT1DO6\MSSQLSERVER_NEW;'
        'Database=BankDB;'
        'Trusted_Connection=yes;'
    )
    print("Connection Established")

except Exception as e:
    print("Connection Failed")
```

```
Connection Established
```

In [3]:

```
def getAccount():
    try:
        account = pd.read_sql_query('''
        SELECT * FROM Accounts
        ''',
        conn)
        df = pd.DataFrame(account)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getBank():
    try:
        bank = pd.read_sql_query('''
        SELECT * FROM Bank
        ''',
        conn)
        df = pd.DataFrame(bank)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getCard():
    try:
        card = pd.read_sql_query('''
        SELECT * FROM Cards
        ''',
        conn)
        df = pd.DataFrame(card)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getCustomer():
    try:
        customer = pd.read_sql_query('''
        SELECT * FROM Customers
        ''',
        conn)
        df = pd.DataFrame(customer)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getLoan():
    try:
        loan = pd.read_sql_query('''
        SELECT * FROM Loans
        ''',
        conn)
        df = pd.DataFrame(loan)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getService():
    try:
        service = pd.read_sql_query('''
        SELECT * FROM Services
        ''',
        conn)
        df = pd.DataFrame(service)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)

def getTransaction():
    try:
        transaction = pd.read_sql_query('''
        SELECT * FROM Transactions
        ''',
        conn)
        df = pd.DataFrame(transaction)
        df.to_csv(r'C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL
    except Exception as e:
        print(e)
```

In [4]:

```
getAccount()
getBank()
getCard()
getCustomer()
getLoan()
getService()
getTransaction()
```

```
C:\Users\Ezra Muir\anaconda3\lib\site-packages\pandas\io\sql.py:761: UserWarning:
pandas only support SQLAlchemy connectable(engine/connection) ordatabase string UR
I or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider
using SQLAlchemy
  warnings.warn(
C:\Users\Ezra Muir\anaconda3\lib\site-packages\pandas\io\sql.py:761: UserWarning:
pandas only support SQLAlchemy connectable(engine/connection) ordatabase string UR
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pandas only support SQLAlchemy connectable(engine/connection) ordatabase string UR
I or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider
using SQLAlchemy
  warnings.warn(
```

In [5]:

```
# # Reading all "*/.csv"

# # specifying the path to csv files
# path = "C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn/SQL To Diagra

# # csv files in the path
# files = glob.glob(path + "/*.csv")

# # defining an empty list to store
# # content
# data_frame = pd.DataFrame()
# content = []

# # checking all the csv files in the
# # specified path
# for filename in files:

#     # reading content of csv file
#     # content.append(filename)
#     df = pd.read_csv(filename, index_col=None)
#     content.append(df)

# # converting content to data frame
# data_frame = pd.concat(content)
# print(data_frame)
```

In [6]:

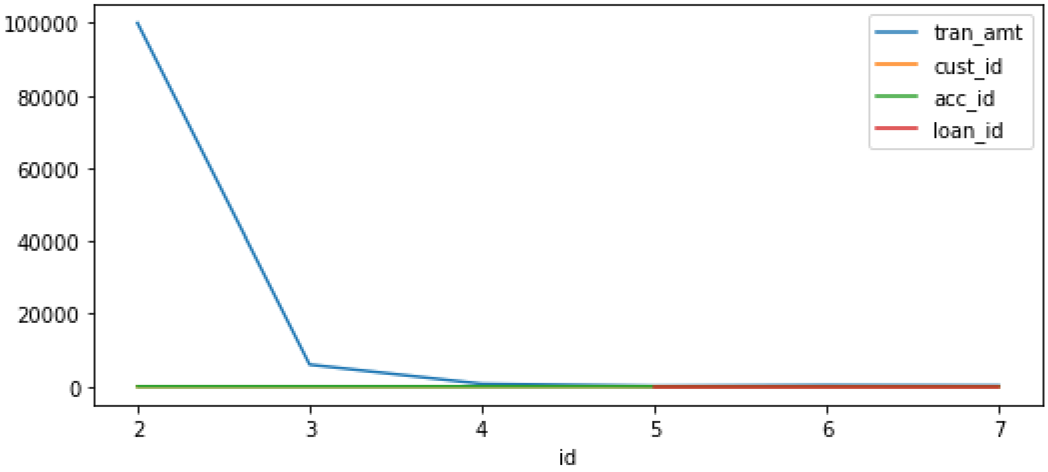
```
df_transaction = pd.read_csv("C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov

plt.rcParams["figure.figsize"] = [7.50, 3.50]
plt.rcParams["figure.autolayout"] = True

headers = ['id', 'tran_dt', 'tran_amt', 'cust_id', 'acc_id', 'loan_id']

df_transaction.set_index('id').plot()

plt.show()
```

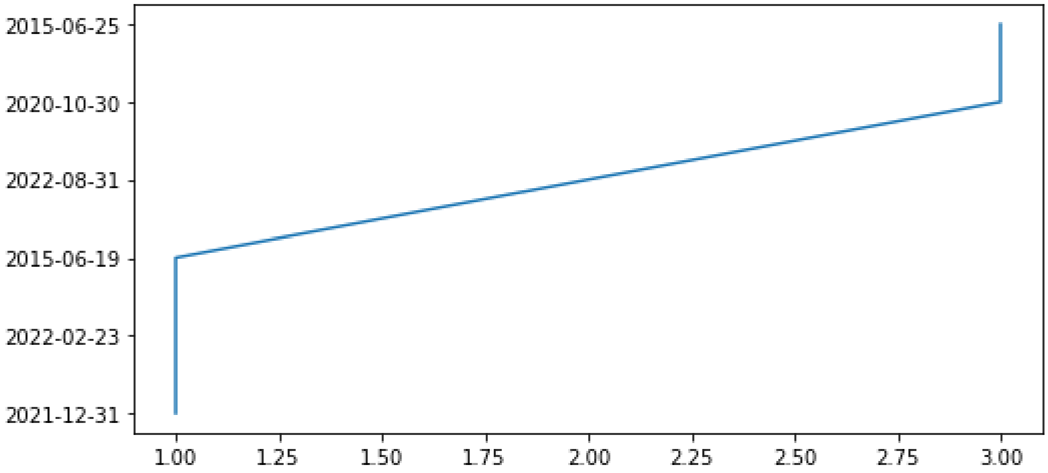


In [7]:

```
plt.plot(df_transaction.cust_id, df_transaction.tran_dt)
```

Out[7]:

```
[<matplotlib.lines.Line2D at 0x29e6a711e20>]
```

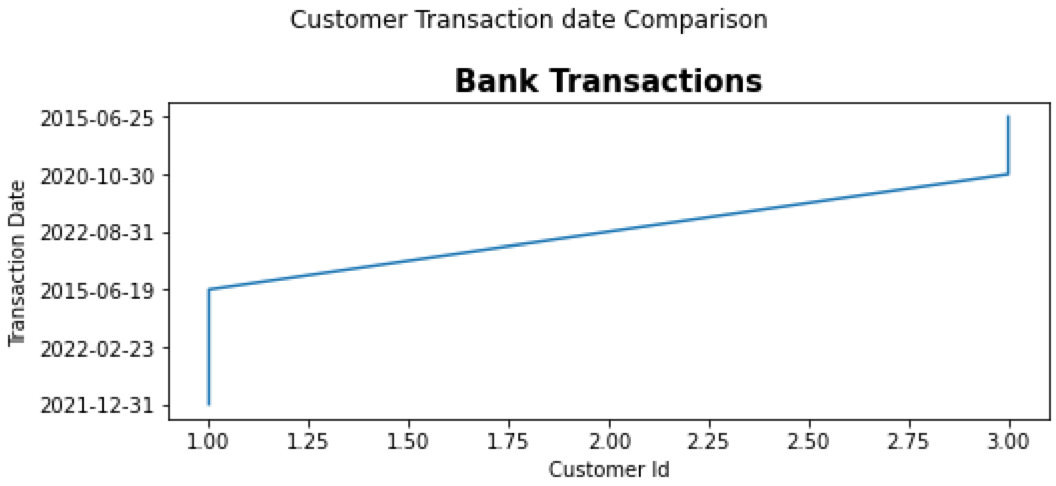


In [8]:

```
# Adding Titles
plt.plot(df_transaction.cust_id, df_transaction.tran_dt)
plt.suptitle('Customer Transaction date Comparison')
plt.title('Bank Transactions', fontdict={'fontsize':15,'fontweight':'bold'})
plt.xlabel('Customer Id')
plt.ylabel('Transaction Date')
```

Out[8]:

```
Text(0, 0.5, 'Transaction Date')
```



In [9]:

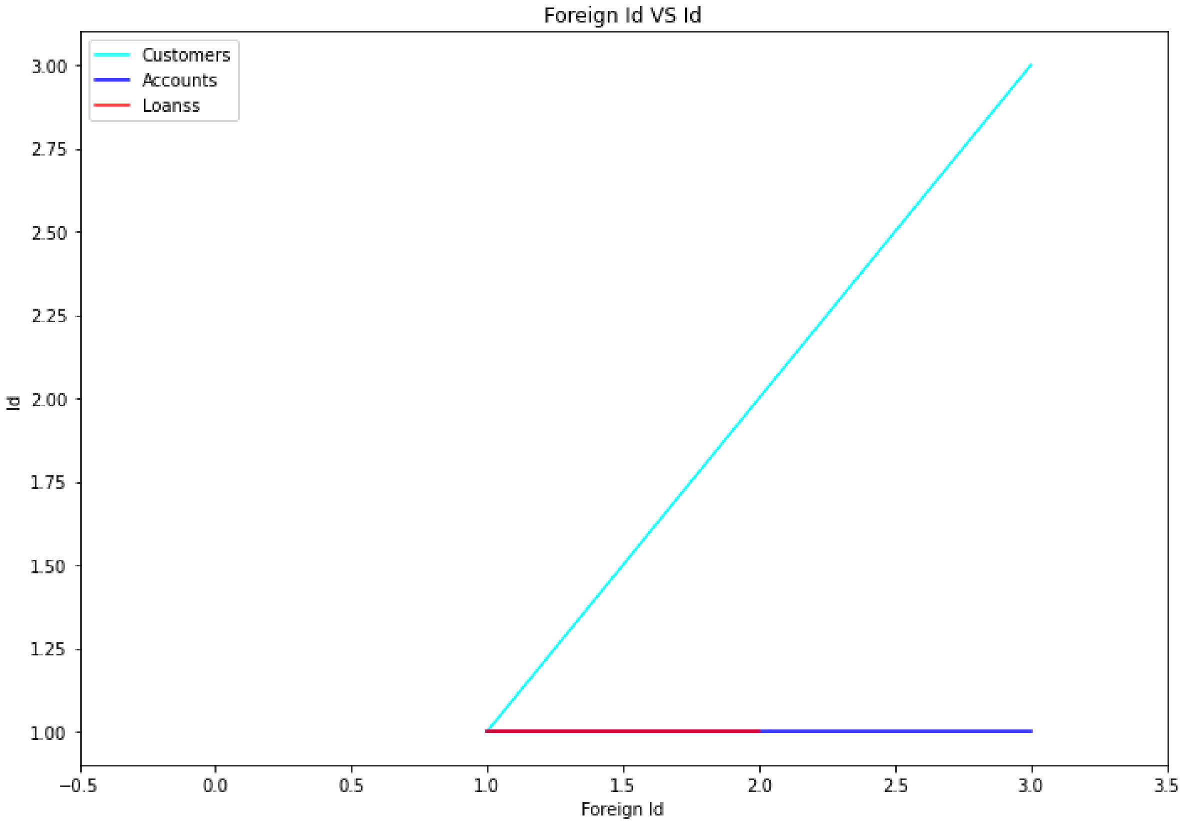
```
# Plotting multiple files
data_blue = pd.read_csv("C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Lear
data_red = pd.read_csv("C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn
data_aqua= pd.read_csv("C:/Users/Ezra Muir/Documents/Training-Work/Python/Nov_Learn
```

In [10]:

```
plt.figure(figsize=(10, 7))   # Set the size of your plot. It will determine the re

plt.plot(data_aqua['id'], data_aqua['acc_id'], color="aqua", label="Customers")
plt.plot(data_blue['id'], data_blue['bank_id'], color="blue", label="Accounts")
plt.plot(data_red['id'], data_red['bank_id'], color="red", label="Loanss")

plt.xlabel("Foreign Id")
plt.xlim((-0.5, 3.5))
plt.ylabel("Id")
plt.legend(loc="upper left")
plt.title("Foreign Id VS Id")
plt.savefig("ID_curves.pdf")
plt.show()
```


Foreign Id VS Id
Customers
Accounts
Loanss
Id
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
−0.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Foreign Id

```
In [ ]:
```