# The Yacht Club Example

A diagram of a bank account

Description automatically generated

Figure 1. A database with graphs Fraud and Social [1]

To provide a base example for the TCK, the example database from [1] can be implemented in a GQL-compliant DBMS as follows.

The initial state of the database is as shown in Figure 1, which is equivalent to populating the database with the following GQL statements (single quotes must be straight quotes):

create type Person as (id string,name string) nodetype;

insert (:Account{id:'a1',owner:'Aretha',isBlocked:false});

insert (:Account{id:'a2',owner:'Scott',isBlocked:false});

insert (:Person&Account{id:'p1',owner:'Jay',name:'Jay',isBlocked:false});

insert (:Person&Account{id:'p2',accid:'p2',owner:'Mike',name:'Mike', isBlocked:true});

insert (:YachtClub{id:'c1',name:'Ankh-Morpork Yacht Club',address:'Cable Street'});

insert (:YachtClub{id:'c2',name:'Emerald City Yacht Club',address:'Yellow Brick Road'});

match (x:Account{id:'p1'}),(y:Account{id:'p2'}) insert (x)-[:Transfer{id:'t1', amount:2500000}]->(y);

match (x:Account{id:'p2'}),(y:Account{id:'a2'}) insert (x)-[:Transfer{id:'t2', amount:3000000}]->(y);

match (x:Account{id:'a2'}),(y:Account{id:'a1'}) insert (x)-[:Transfer{id:'t3', amount:350000}]->(y);

match (x:Account{id:'a1'}),(y:Account{id:'p1'}) insert (x)-[:Transfer{id:'t4', amount:2000000}]->(y);

match (x:Person {id:'p1'}),(y:YachtClub {id:'c1'}) insert (x)-[:"Member" {id:'m1'}]->(y);

match (x:Person {id:'p2'}),(y:YachtClub {id:'c1'}) insert (x)-[:"Member" {id:'m2'}]->(y);

match (x:Person {id:'p2'}),(y:YachtClub {id:'c2'}) insert (x)-[:"Member" {id:'m3'}]->(y);

To construct the database using the csv files provided, the graph types should be declared to match the following informal specification:

Account: (id string, owner string, isBlocked boolean) nodetype

Member: (id string, personid string, clubid string) edgetype(person, yachtclub)

Person: (id string, name string) nodetytpe

Transfer: (id string, fromid string, toid string, amount int) edgetype(acount,account)

YachtClub: (id string, name string, address string) nodetype

References

[1] Francis, N., Guagliardo, P., Marsault, V., Murlak, F., Rogova, A., Gheerbrant, A., Libkin, L., Martens, W., Peterfreund, L., Vrgoč, D.: A Researcher’s Digest of GQL, 26th International Conference on Database Theory (ICDT 2023), Mar 2023, Ioannina, Greece. doi: 10.4230/LIPIcs.ICDT.2023.1 . https://hal.science/hal-04094449 (retrieved: Dec 2023)