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%_____Question_1_____

%joining topCDs and cd, selecting 2003 and rating <= 5
yearAndRating:= project cdCode, cdTitle, numberSold (select year = 2003 and rating <= 5 (topCDs njoin cd));

%joining client and rentedBy to get the clients that rented cds
clientsRented:= project cdCode, clientID, firstName, lastName (client njoin rentedBy);

%joining the above tables and projecting cdCode, cdTitle,clientID, firstName, lastName, numberSold
qUESTION_____1 :=
project cdCode, cdTitle,clientID, firstName, lastName, numberSold (yearAndRating njoin clientsRented);

%_____Question_2_____

%Finding Maximum sold in 2003
numSold := project numberSold (select year = 2003 (cd));
numSoldCopy (numberSoldCopy) := numSold;
notMaxSold := project numberSold (select numberSold<numberSoldCopy (numSold product numSoldCopy));
maxSold := numSold difference notMaxSold;
maxNumSold := select year = 2003 (cd njoin maxSold);

%joining maxNumSold and composedOf to get the best selling in 2003
bestSelling2003 := project songCode, year (maxNumSold njoin composedOf);

%projecting the songCode and songTitle of the best selling cds published in 2003
qUESTION_____2 :=
project songCode, songTitle(bestSelling2003 njoin song);

%_____Question_3_____

%Setting up the abTable (consisting of the groups that clients have rented cds from and bTable(detroit clients) for division

group := project groupCode, groupName, cdCode (cd njoin musicalGroup);
abTable := project groupCode, groupName, clientID (group njoin rentedBy);
bTable := project clientID(select address = 'Detroit' (client));

%Division

aTable := project groupCode, groupName (abTable);
allaWithAllb := aTable product bTable;
aNotRelatedToSomeb := project groupCode, groupName (allaWithAllb difference abTable);

%Final step of the division algorithm

qUESTION_____3 :=
aTable difference aNotRelatedToSomeb;

%_____Question_4_____

%artist and songCode for song that was written by them
songWriters := project artistID, firstName, lastName, songCode (artist njoin writtenBy);

%songs with a rating of more than 5

ratingMoreThan5 := project artistID, firstName, lastName, rating(select rating > 5 (songWriters njoin topSongs));

%songs with a rating of less than or equal to 5

ratingLessOrEqual5 := project artistID, firstName, lastName, rating(select rating <= 5 (songWriters njoin topSongs));

%finding the difference of the two above tables in order to isolate the artist that have never received a top 5 rating

qQUESTION____4 :=

(project artistID, firstName,lastName(ratingMoreThan5)) difference (project
artistID,firstName,lastName(ratingLessOrEqual5));

%_____Question_5_____

%joining member and artist to find what groups they have belonged to

artistGroup(artistID,firstName,lastName,groupCode) := project artistID, firstName, lastName, groupCode(member
njoin artist);

%creating a copy of the same table in order to compare the data

artistGroupCopy(aIDC, fNC, INC, gCC) := artistGroup;

%keeping all the artist that have mutiple groups

qQUESTION____5 :=

project artistID, firstName, lastName(select artistID = aIDC and firstName = fNC and lastName = INC and
groupCode

< > gCC(artistGroup product artistGroupCopy));

Question1

cdCode/char	cdTitle/char	clientID/char	firstName/char	lastName/char	numberSold/numeric
'C4'	'Friday Night'	'Client1'	'James'	'Smith'	800,000
'C7'	'Broken'	'Client1'	'James'	'Smith'	600,000
'C8'	'Golden Road'	'Client3'	'John'	'Collins'	800,000
'C9'	'Function'	'Client2'	'Alen'	'Black'	100,000
'C10'	'Be Here'	'Client1'	'James'	'Smith'	790,000

Question2

songCode/char	songTitle/char
'S7'	'Breathless'
'S8'	'My Oh My'
'S9'	'Ooh La La'
'S17'	'Days Go By'
'S18'	'Another Day in Paradise'
'S1'	'Sweet Dreams'
'S2'	'Goodnight'

Question3

groupCode/char	groupName/char
'G2'	'Sweet Symphony'
'G6'	'Beyond'

Question4

artistID/char	firstName/char	lastName/char
'A10'	'Henry'	'Brown'

Question5

artistID/char	firstName/char	lastName/char
'A1'	'Bjorn'	'Friedman'
'A4'	'Michael'	'Agnelo'
'A8'	'Lisa'	'Raymond'
'A9'	'Janet'	'Brown'
'A10'	'Henry'	'Brown'