Lab 3 (2%)

Correlated subqueries

**topics**

Correlated and uncorrelated queries

**Group work acknowledgment**

We, Mansoor Ahmad Zafar, declare that the attached assignment is our own work in accordance with the Seneca Academic Policy. No part of this assignment has been copied manually or electronically from any other source (including web sites) **or distributed to other students.**

Specify below what each member has done towards the completion of this work:

Name Task(s)

1-Mansoor Ahmad Zafar Everything

2-

3-

**Before you start**

You are to create a new database named “AviaCo” and run the sql script you are given to create the tables in the database.

**Instructions**

For each of the following questions write the sql query (in text) and show the result set underneath each SQL query. For questions 1 to 5, you should write a correlated subquery. Answers using over() and partition or using join with a group by query are worth 0.

1. Show the charter trip code, the wait hours, the destination and the average wait time of charters of that same charter’s destination. Order the charters by destination.

Output: first 5 rows out of 18

A white grid with black text

Description automatically generated

–Query:

select top 5 charter.CHAR\_TRIP, charter.CHAR\_HOURS\_WAIT, charter.CHAR\_DESTINATION,

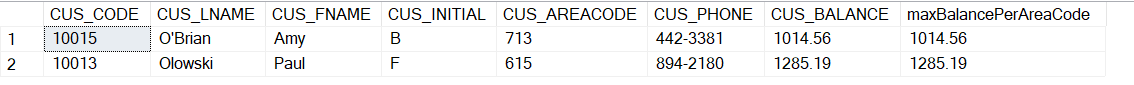
(select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DESTINATION = charter.CHAR\_DESTINATION) as 'avg wait time per desti'

from charter

order by charter.CHAR\_DESTINATION

1. Show the customers that have the highest balance in their area code.

Output:



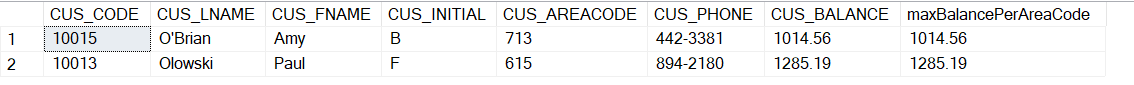
–Query:

select \*

from customer

where customer.CUS\_BALANCE = (select max(c.CUS\_BALANCE) from customer c where c.CUS\_AREACODE = customer.CUS\_AREACODE)

Add the max balance per Area code column to the output



–Query:

select \*, (select max(c.CUS\_BALANCE) from customer c where c.CUS\_AREACODE = customer.CUS\_AREACODE) as maxBalancePerAreaCode

from customer

where customer.CUS\_BALANCE = (select max(c.CUS\_BALANCE) from customer c where c.CUS\_AREACODE = customer.CUS\_AREACODE)

1. Show the charters that have wait time greater than the average wait time of charters of the same destination.

Output:

A screenshot of a table

Description automatically generated

–Query:

select charter.CHAR\_TRIP, charter.CHAR\_HOURS\_WAIT, charter.CHAR\_DESTINATION

from charter

where charter.CHAR\_HOURS\_WAIT > (select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DESTINATION = charter.CHAR\_DESTINATION)

Add the avg wait time per dest to the output

A screenshot of a table

Description automatically generated

–Query:

select charter.CHAR\_TRIP, charter.CHAR\_HOURS\_WAIT, charter.CHAR\_DESTINATION,

(select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DESTINATION = charter.CHAR\_DESTINATION) as avgWaittime\_perDest

from charter

where charter.CHAR\_HOURS\_WAIT > (select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DESTINATION = charter.CHAR\_DESTINATION)

1. Show the charters that have wait time greater than the average wait time of charters that flew on the same day.

Output:

A screenshot of a data

Description automatically generated

–Query:

select charter.CHAR\_TRIP, charter.CHAR\_HOURS\_WAIT, CHAR\_DATE

from charter

where charter.CHAR\_HOURS\_WAIT > (select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DATE = charter.CHAR\_DATE)

Add the avg wait time of same day flights to the output

A screenshot of a data

Description automatically generated

–Query:

select charter.CHAR\_TRIP, charter.CHAR\_HOURS\_WAIT, charter.CHAR\_DATE,

(select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DATE = charter.CHAR\_DATE) as avgWaitTime\_samedayflights

from charter

where charter.CHAR\_HOURS\_WAIT > (select avg(c.CHAR\_HOURS\_WAIT) from charter c where c.CHAR\_DATE = charter.CHAR\_DATE)

1. Show the charters that have a fuel consumption per hour greater than the average fuel consumption of charters of the same aircraft model.

Write a subquery that calculates the average fuel consumption given the outer query model code.

Output:

A table with numbers and letters

Description automatically generated

–Query:

select charter.CHAR\_TRIP, charter.AC\_NUMBER, aircraft.MOD\_CODE,

(charter.CHAR\_FUEL\_GALLONS / charter.CHAR\_HOURS\_FLOWN) as FuelConsPerHr

from charter

join aircraft on aircraft.AC\_NUMBER = charter.AC\_NUMBER

where (charter.CHAR\_FUEL\_GALLONS / charter.CHAR\_HOURS\_FLOWN)

> ( select avg(c.CHAR\_FUEL\_GALLONS/c.CHAR\_HOURS\_FLOWN)

from charter c join aircraft a on a.AC\_NUMBER = c.AC\_NUMBER

where a.MOD\_CODE = aircraft.MOD\_CODE

)

Add the avg Hourly fuel consumption per aircraft model to the output

A table with numbers and letters

Description automatically generated

–Query:

select \*,

( select avg(c.CHAR\_FUEL\_GALLONS/c.CHAR\_HOURS\_FLOWN)

from charter c join aircraft a on a.AC\_NUMBER = c.AC\_NUMBER

where a.MOD\_CODE = v.MOD\_CODE

) as avgHourlyFuelCons\_perACmodel

from

(

select charter.CHAR\_TRIP, charter.AC\_NUMBER, aircraft.MOD\_CODE,

(charter.CHAR\_FUEL\_GALLONS / charter.CHAR\_HOURS\_FLOWN) as FuelConsPerHr

from charter

join aircraft on aircraft.AC\_NUMBER = charter.AC\_NUMBER

where (charter.CHAR\_FUEL\_GALLONS / charter.CHAR\_HOURS\_FLOWN)

> ( select avg(c.CHAR\_FUEL\_GALLONS/c.CHAR\_HOURS\_FLOWN)

from charter c join aircraft a on a.AC\_NUMBER = c.AC\_NUMBER

where a.MOD\_CODE = aircraft.MOD\_CODE

)

) v

**SUBMISSION**

Submit your lab3\_GroupX.doc file on BB.

Replace X with your group number.

If a student does not contribute to the work, do not list his/her name(s) under the group section in the lab file and will get 0.

**Grading rubrics**

Each question is worth 5pts. Total is 25 pts.

If the output is included without the query, the answer is worth 0.