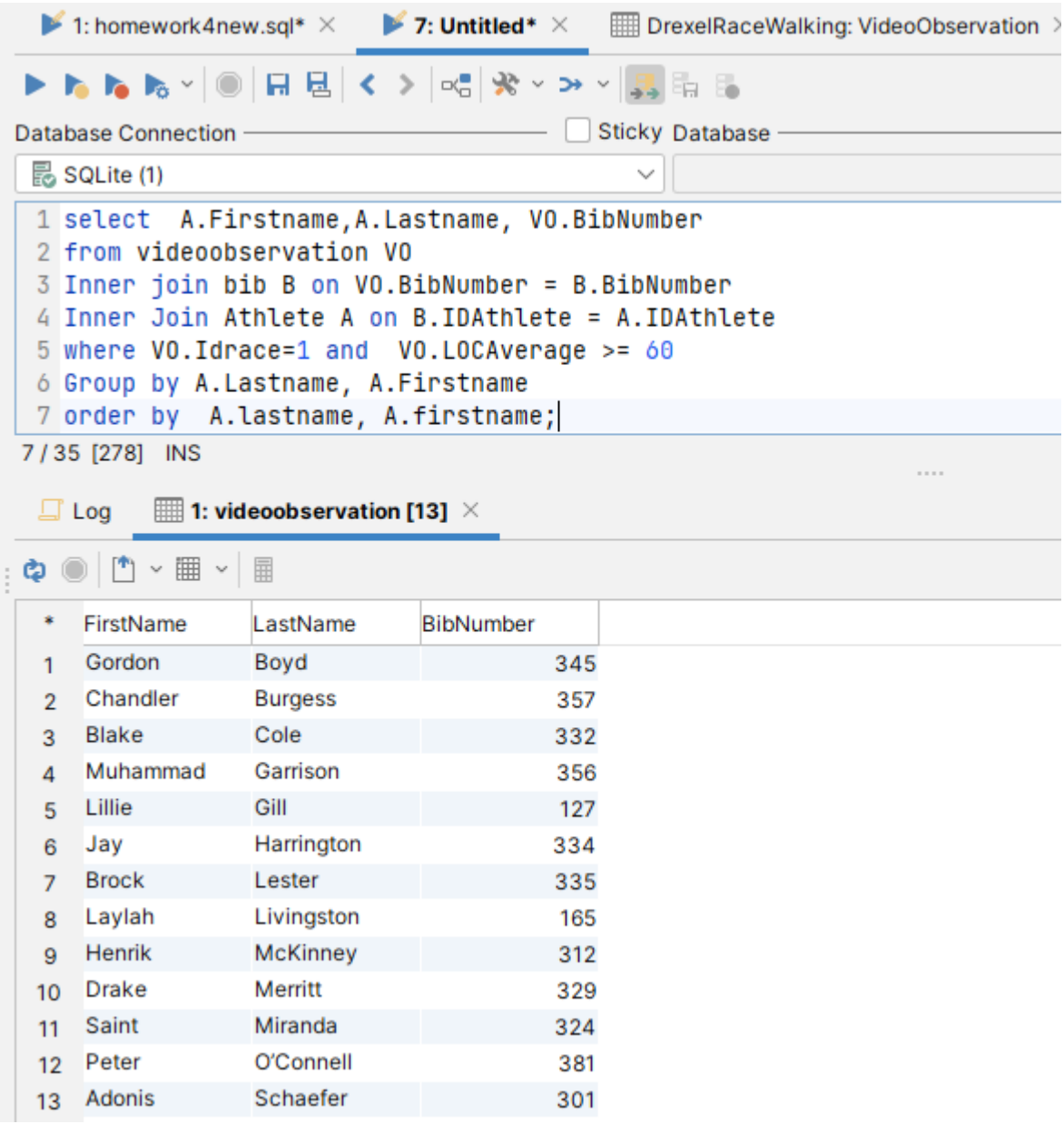
Database Assignment Homework #4

Homework #4 – Question 1A *– Deserving of a Red Card for Loss of Contact. Deserving a Red Card for the loss of Contact for a particular race, IDRace=1 and LOCAverage > = 60 ms.*

Answer) The sql statement is give below for Red Card deserving for LOCAvg >= 60 ms, with the execution result.

```
select  A.Firstname,A.Lastname, VO.BibNumber
from videoobservation VO
Inner join bib B on VO.BibNumber = B.BibNumber
Inner Join Athlete A on B.IDAthlete = A.IDAthlete
where VO.Idrace=1 and  VO.LOCAverage >= 60
Group by A.Lastname, A.Firstname
order by A.lastname, A.firstname;
```

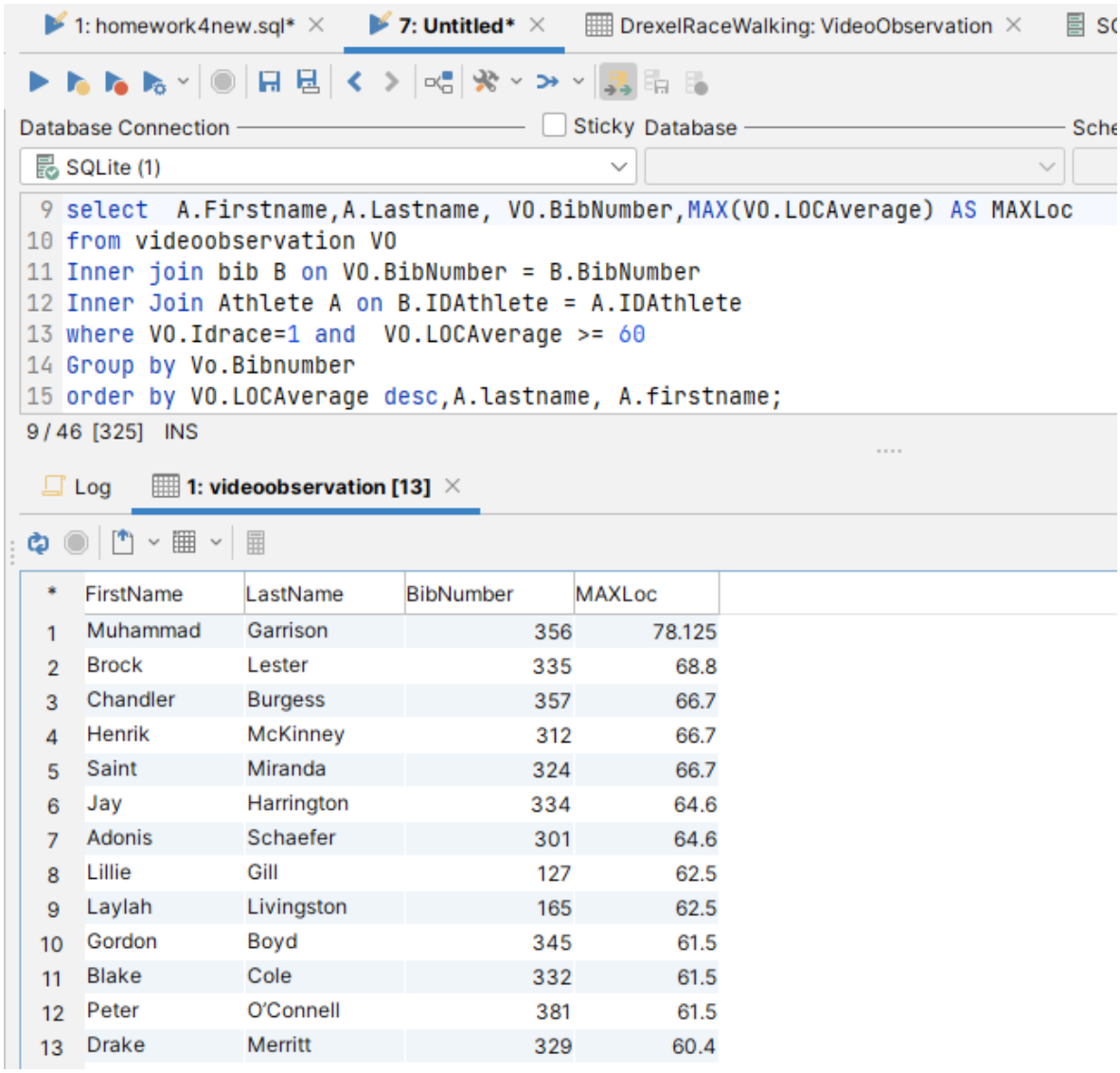


*	FirstName	LastName	BibNumber
1	Gordon	Boyd	345
2	Chandler	Burgess	357
3	Blake	Cole	332
4	Muhammad	Garrison	356
5	Lillie	Gill	127
6	Jay	Harrington	334
7	Brock	Lester	335
8	Laylah	Livingston	165
9	Henrik	McKinney	312
10	Drake	Merritt	329
11	Saint	Miranda	324
12	Peter	O'Connell	381
13	Adonis	Schaefer	301

Homework #4 – Question 1B *– Deserving of a Red Card for Loss of Contact with Stats. The maximum visible loss of contact in milliseconds.*

Answer) The sql statement is give below for MAX visible loss of contact LOCaverage with the execution result.

```
select  A.Firstname,A.Lastname, VO.BibNumber,
MAX(VO.LOCAverage) AS MAXLoc
from videoobservation VO
Inner join bib B on VO.BibNumber = B.BibNumber
Inner Join Athlete A on B.IDAthlete = A.IDAthlete
where VO.Idrace=1 and  VO.LOCAverage >= 60
Group by Vo.Bibnumber
order by VO.LOCAverage desc,A.lastname, A.firstname;
```

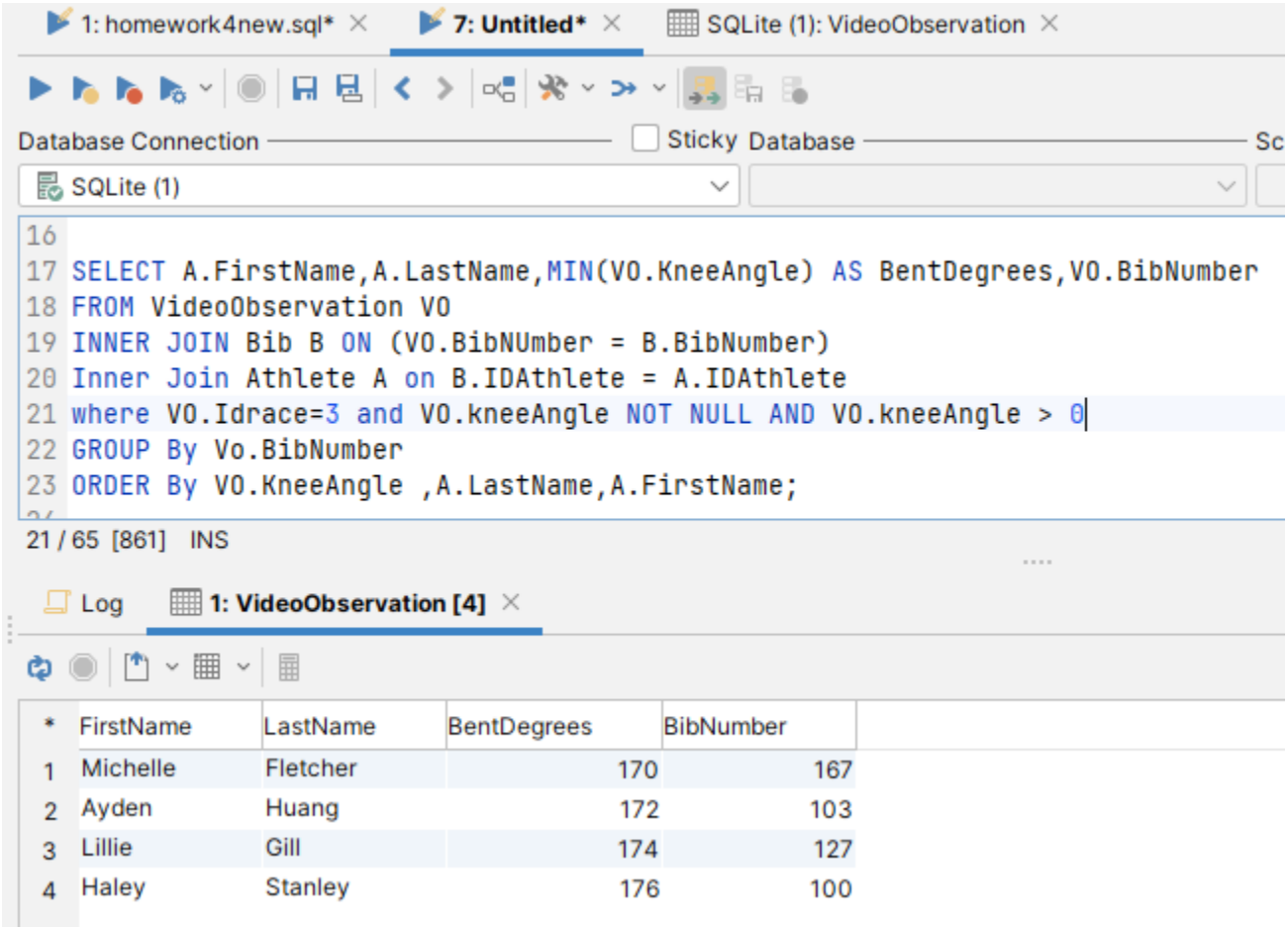


*	FirstName	LastName	BibNumber	MAXLoc
1	Muhammad	Garrison	356	78.125
2	Brock	Lester	335	68.8
3	Chandler	Burgess	357	66.7
4	Henrik	McKinney	312	66.7
5	Saint	Miranda	324	66.7
6	Jay	Harrington	334	64.6
7	Adonis	Schaefer	301	64.6
8	Lillie	Gill	127	62.5
9	Laylah	Livingston	165	62.5
10	Gordon	Boyd	345	61.5
11	Blake	Cole	332	61.5
12	Peter	O'Connell	381	61.5
13	Drake	Merritt	329	60.4

Homework #4 – Question 2 – *Deserved a Red Card for Bent Knee. For a given race IDRace=3, give all the athletes who deserve Red card for Bent Knee. You deserve a DQ for Bent keen angle other than Null. Include the Bent Knee angle where the player Bent Knee the most, i.e. it is the smallest value greater than Zero.*

Answer) The sql statement for Bent Knee Red Card Deserving Athletes fro IDRace=3.

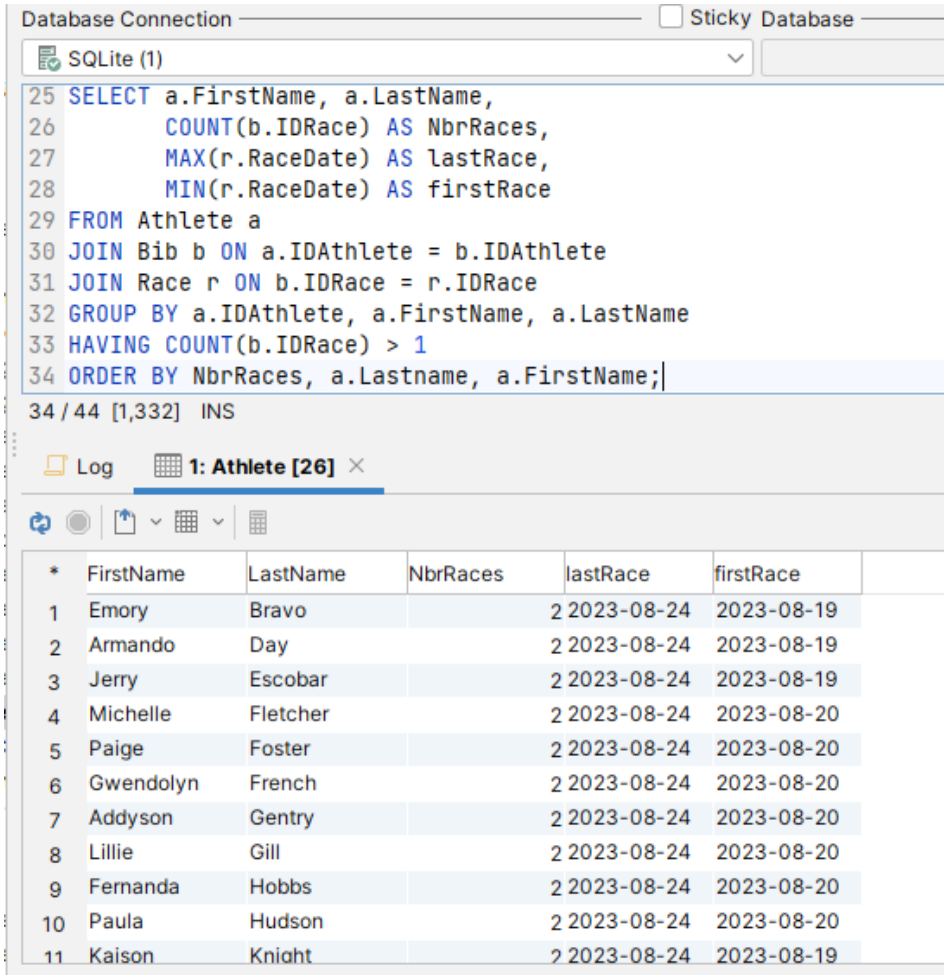
```
SELECT A.FirstName,A.LastName,MIN(VO.KneeAngle) AS BentDegrees,VO.BibNumber
FROM VideoObservation VO
INNER JOIN Bib B ON (VO.BibNUmber = B.BibNumber)
Inner Join Athlete A on B.IDAthlete = A.IDAthlete
where VO.Idrace=3 and VO.kneeAngle NOT NULL AND VO.kneeAngle > 0
GROUP By Vo.BibNumber
ORDER By VO.KneeAngle ,A.LastName,A.FirstName;
```



Homework #4 – Question 3 –*Athlete List participating in more than one race*

Answer) The sql statement for Athletes who participated in more than on e race, also showing the start race date and the last race date. Various functions used here are , MAX,MIN, COUNT, DISTINCT, GROUP , HAVING. SQL is to achieve this is given below.

```
SELECT a.FirstName, a.LastName,
       COUNT(b.IDRace) AS NbrRaces,
       MAX(r.RaceDate) AS lastRace,
       MIN(r.RaceDate) AS firstRace
FROM Athlete a
JOIN Bib b ON a.IDAthlete = b.IDAthlete
JOIN Race r ON b.IDRace = r.IDRace
GROUP BY a.IDAthlete, a.FirstName, a.LastName
HAVING COUNT(b.IDRace) > 1
ORDER BY NbrRaces, a.Lastname, a.FirstName;
```

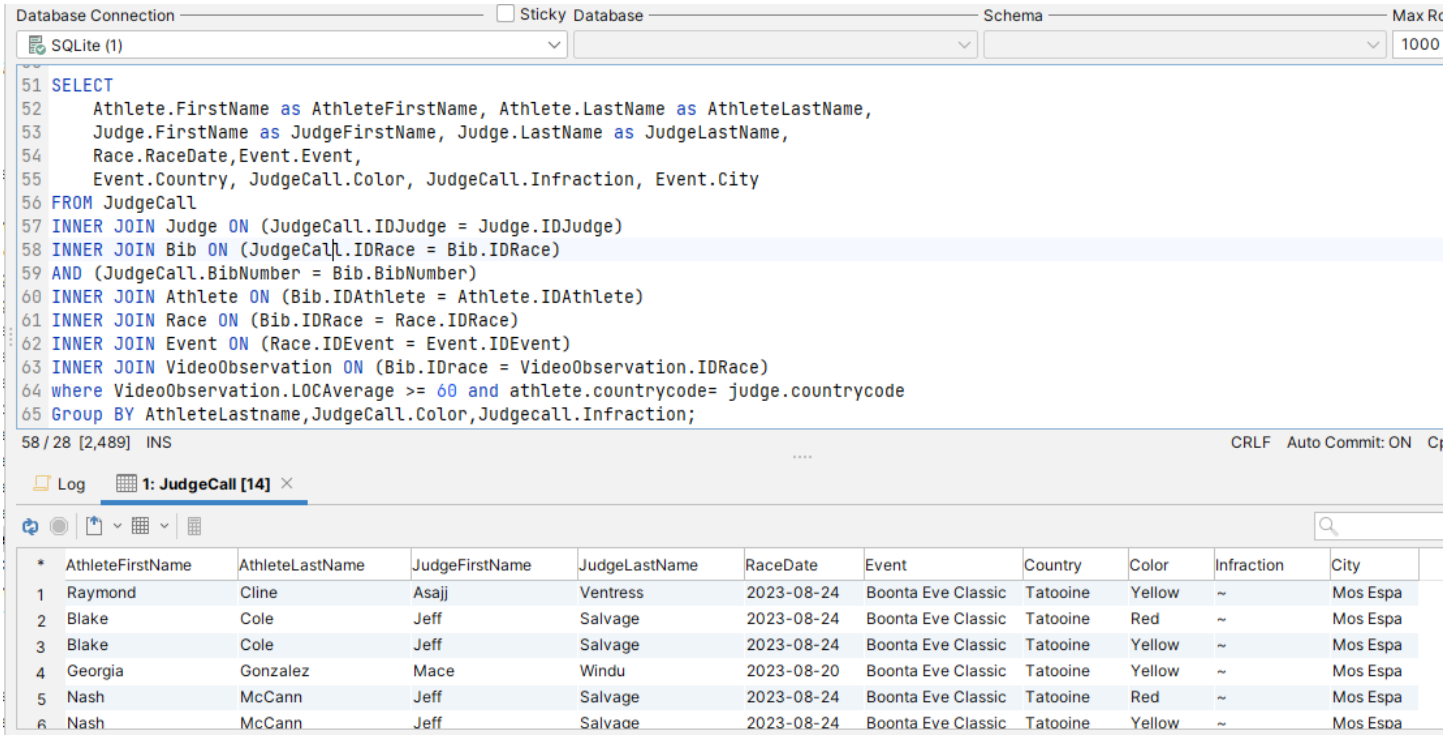


*	FirstName	LastName	NbrRaces	lastRace	firstRace
1	Emory	Bravo	2	2023-08-24	2023-08-19
2	Armando	Day	2	2023-08-24	2023-08-19
3	Jerry	Escobar	2	2023-08-24	2023-08-19
4	Michelle	Fletcher	2	2023-08-24	2023-08-20
5	Paige	Foster	2	2023-08-24	2023-08-20
6	Gwendolyn	French	2	2023-08-24	2023-08-20
7	Addyson	Gentry	2	2023-08-24	2023-08-20
8	Lillie	Gill	2	2023-08-24	2023-08-20
9	Fernanda	Hobbs	2	2023-08-24	2023-08-20
10	Paula	Hudson	2	2023-08-24	2023-08-20
11	Kaison	Knight	2	2023-08-24	2023-08-19

Homework #4 – Question 4 – *Received a red card from a judge from their own country*

Answer) Here in this question multiple tables and joins are required. This question is completed, by taking into consideration total six tables and five joins. The tables used here are Athlete, Bib, Judge, JudgeCall, Event and Race. The Bib table acts as a pivot table that integrates almost all information.

```
SELECT
    Athlete.FirstName as AthleteFirstName, Athlete.LastName as AthleteLastName,
    Judge.FirstName as JudgeFirstName, Judge.LastName as JudgeLastName,
    Race.RaceDate,Event.Event,
    Event.Country, JudgeCall.Color, JudgeCall.Infraction, Event.City
FROM JudgeCall
INNER JOIN Judge ON (JudgeCall.IDJudge = Judge.IDJudge)
INNER JOIN Bib ON (JudgeCall.IDRace = Bib.IDRace)
AND (JudgeCall.BibNumber = Bib.BibNumber)
INNER JOIN Athlete ON (Bib.IDAthlete = Athlete.IDAthlete)
INNER JOIN Race ON (Bib.IDRace = Race.IDRace)
INNER JOIN Event ON (Race.IDEvent = Event.IDEvent)
INNER JOIN VideoObservation ON (Bib.IDrace = VideoObservation.IDRace)
where VideoObservation.LOCAverage >= 60 and athlete.countrycode= judge.countrycode
Group BY AthleteLastname,JudgeCall.Color,Judgecall.Infraction;
```



*	AthleteFirstName	AthleteLastName	JudgeFirstName	JudgeLastName	RaceDate	Event	Country	Color	Infraction	City
1	Raymond	Cline	Asajj	Ventress	2023-08-24	Boonta Eve Classic	Tatooine	Yellow	~	Mos Espa
2	Blake	Cole	Jeff	Salvage	2023-08-24	Boonta Eve Classic	Tatooine	Red	~	Mos Espa
3	Blake	Cole	Jeff	Salvage	2023-08-24	Boonta Eve Classic	Tatooine	Yellow	~	Mos Espa
4	Georgia	Gonzalez	Mace	Windu	2023-08-20	Boonta Eve Classic	Tatooine	Yellow	~	Mos Espa
5	Nash	McCann	Jeff	Salvage	2023-08-24	Boonta Eve Classic	Tatooine	Red	~	Mos Espa
6	Nash	McCann	Jeff	Salvage	2023-08-24	Boonta Eve Classic	Tatooine	Yellow	~	Mos Espa

Homework #4 – Question 5 – *Returns average loss of contact observed by an Observer, FirstName, lastName, ID of Observer with highest Loss of contact reported by an Observer for IDRace=1. Exclude any judge whose average is above 28ms.*

Answer) We are using here nested select query to complete the task. First we find max(LOCAverage) along with FirstName, LastName, LOCAverage <=28 and IDObserver. Then to match the output shown in the assignment , we exclude max column.

```
SELECT O.FirstName, O.LastName,V.LOCAverage, V.IDObserver, MAX(V.LOCAverage)
FROM VideoObservation as V
INNER JOIN Observer as O ON (V.IDObserver = O.IDObserver)
where V.LOCAverage <=28.0 AND V.IDRace=1);
```

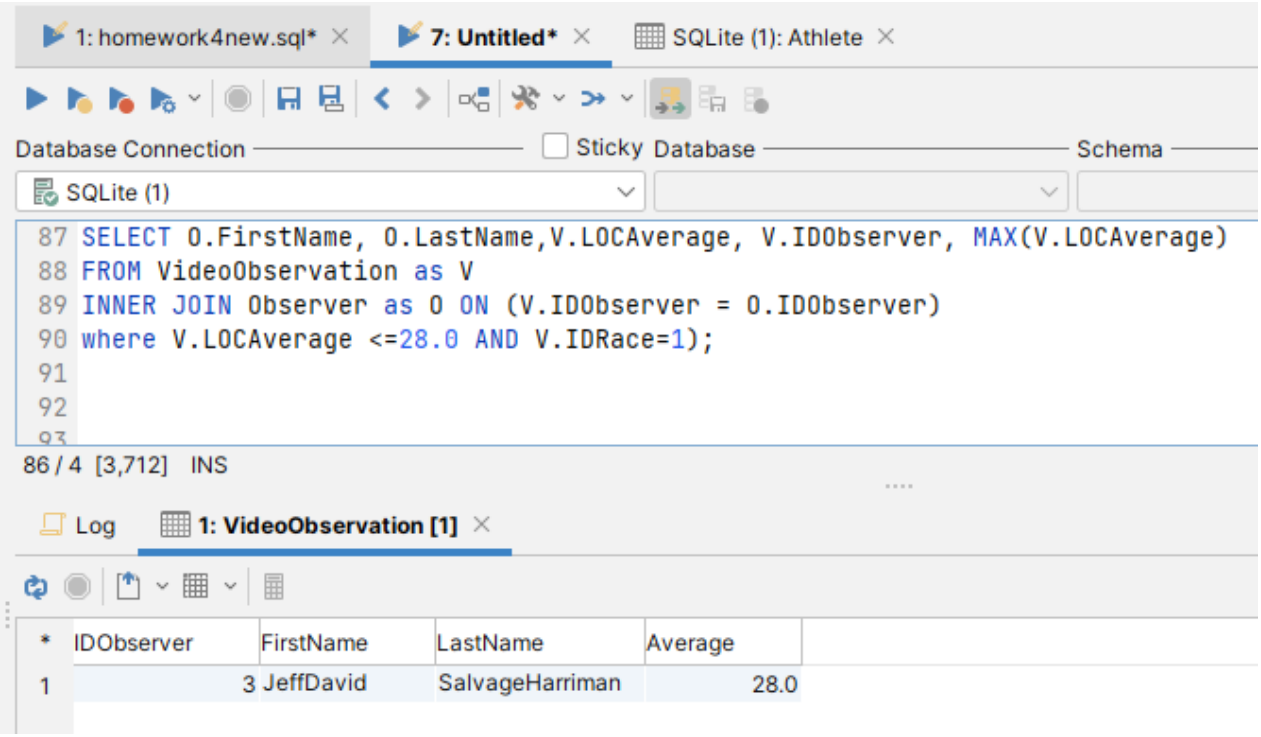


Table References