Project Documentation

Introduction

The **Intercollegiate Athletic Database** is an MYSQL relational database for the intercollegiate to support the scheduling and operation of the Event. It contains eight tables: Location,ResourceTbl,EventRequest, EventPlan,EventPlanLine.

The EventRequest table is the hub of the database. An event request represents an event scheduled at a facility. For example, a basketball game may be scheduled at the gymnasium. Events are sometimes scheduled several months in advance. Holding an event requires resources including personnel and equipment. Resources are assigned to specific locations of a facility. For example, guards may be required at the gates of the football stadium.

The EventPlan table defines a plan for an event's setup, operation, And cleanup.

The EventPlanLine table contains the individual resources required in an event plan

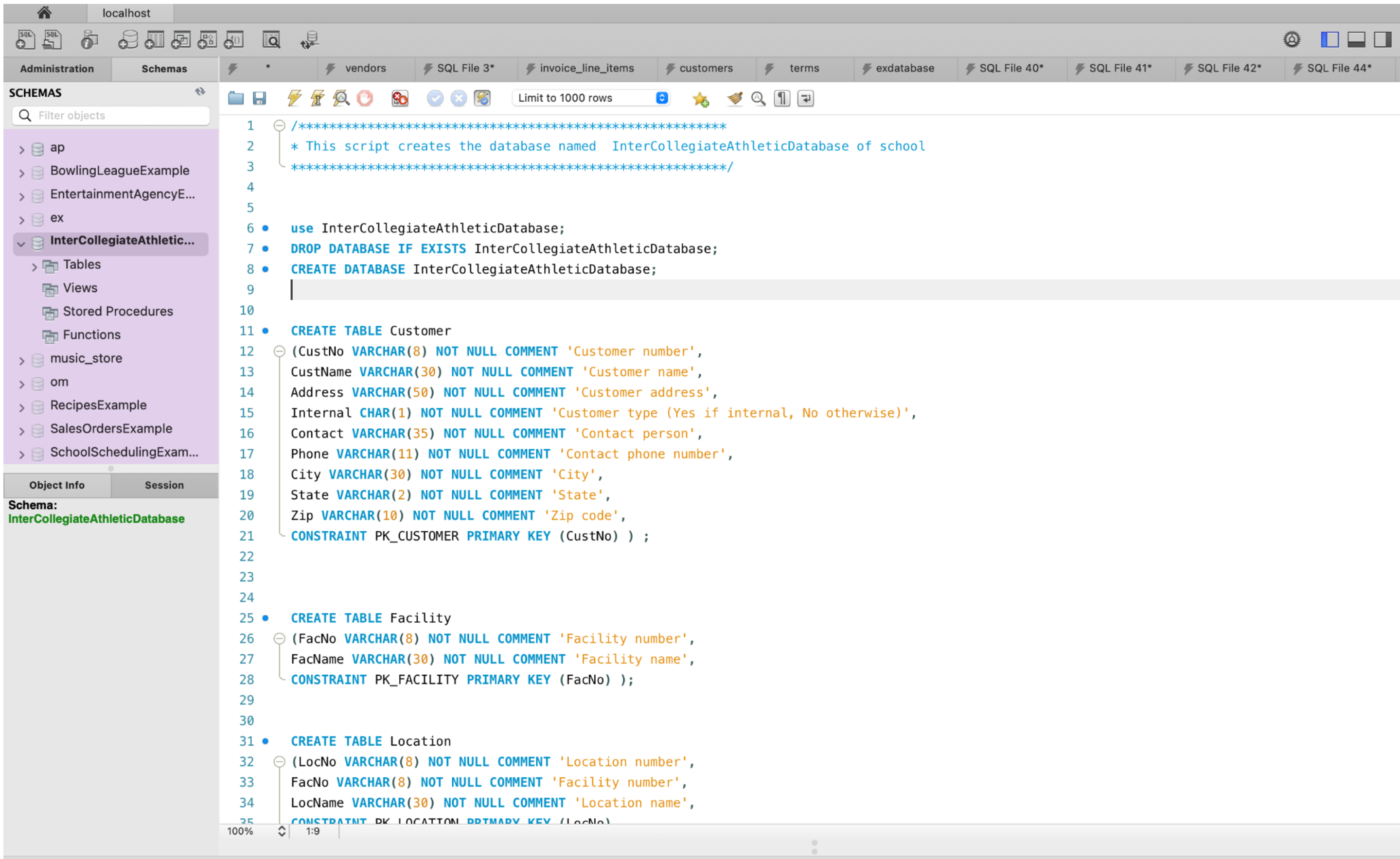
Demonstration

Use MySQL Workbench to create the My **Intercollegiate Athletic Database**
, to review the tables in this database, and enter SQL statements
and run them against this database

Step 1. Start MySQL server is running

1. Start MySQL Workbench and open a connection for the root user
2. Check MySQL server is running.

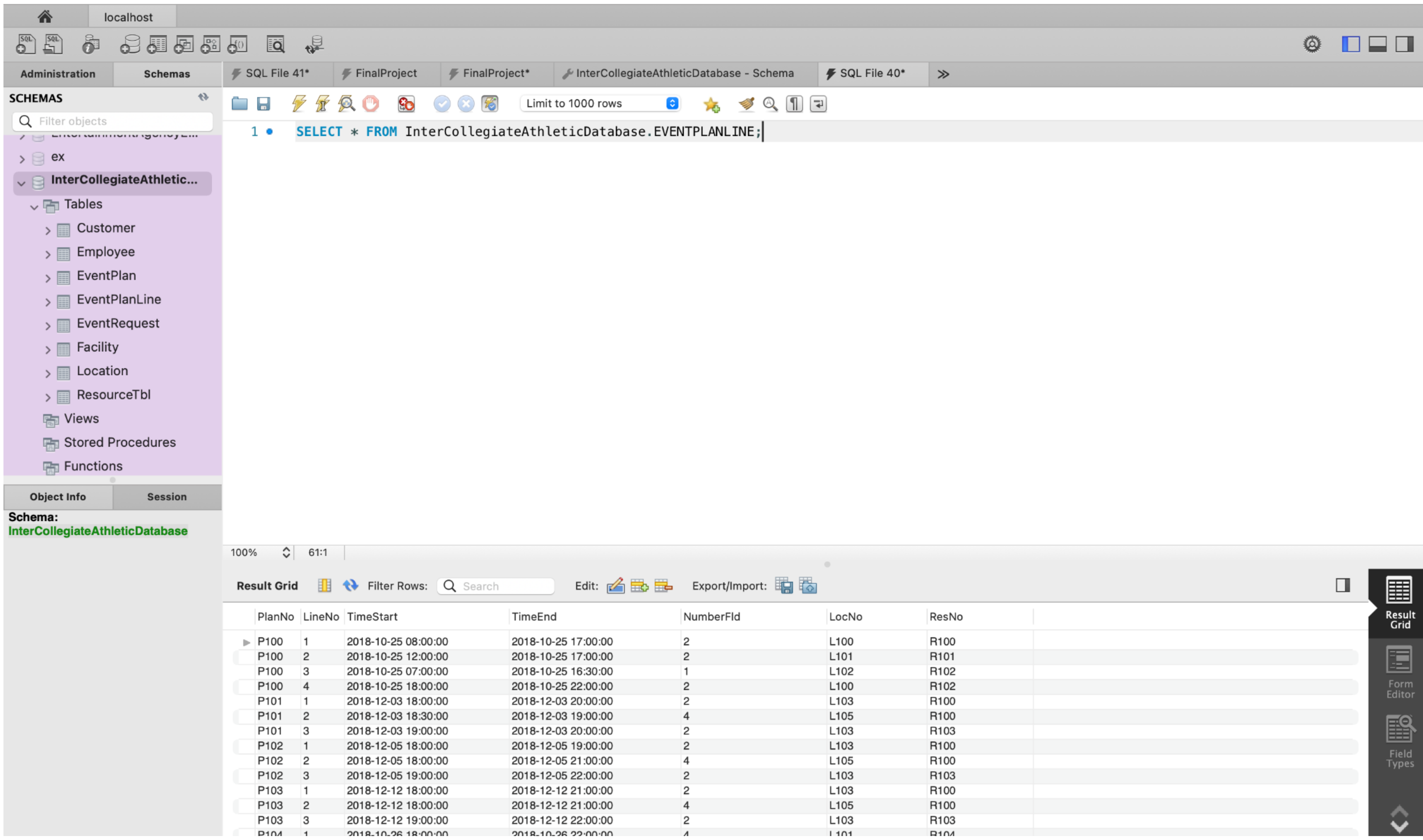
Step 2. Use MySQL Workbench to create the Intercollegiate Athletic Database



```
/*********************************************************
* This script creates the database named  InterCollegiateAthleticDatabase of school
*********************************************************/


use InterCollegiateAthleticDatabase;
DROP DATABASE IF EXISTS InterCollegiateAthleticDatabase;
CREATE DATABASE InterCollegiateAthleticDatabase;


CREATE TABLE Customer
(CustNo VARCHAR(8) NOT NULL COMMENT 'Customer number',
CustName VARCHAR(30) NOT NULL COMMENT 'Customer name',
Address VARCHAR(50) NOT NULL COMMENT 'Customer address',
Internal CHAR(1) NOT NULL COMMENT 'Customer type (Yes if internal, No otherwise)',
Contact VARCHAR(35) NOT NULL COMMENT 'Contact person',
Phone VARCHAR(11) NOT NULL COMMENT 'Contact phone number',
City VARCHAR(30) NOT NULL COMMENT 'City',
State VARCHAR(2) NOT NULL COMMENT 'State',
Zip VARCHAR(10) NOT NULL COMMENT 'Zip code',
CONSTRAINT PK_CUSTOMER PRIMARY KEY (CustNo) ) ;



CREATE TABLE Facility
(FacNo VARCHAR(8) NOT NULL COMMENT 'Facility number',
FacName VARCHAR(30) NOT NULL COMMENT 'Facility name',
CONSTRAINT PK_FACILITY PRIMARY KEY (FacNo) );


CREATE TABLE Location
(LocNo VARCHAR(8) NOT NULL COMMENT 'Location number',
FacNo VARCHAR(8) NOT NULL COMMENT 'Facility number',
LocName VARCHAR(30) NOT NULL COMMENT 'Location name',
CONSTRAINT PK_LOCATION PRIMARY KEY (LocNo)
```

Step 3. Use MySQL Workbench to review the Intercollegiate Athletic Database database

In the Schemas category of the Navigator window, expand the node for the database named Intercollegiate Athletic Database database so you can see all of the database objects it contains. If it isn't displayed in the Schemas tab of the Navigator window, you may need to click on the Refresh button to display it. View the data for the Categories and Eventplanline.



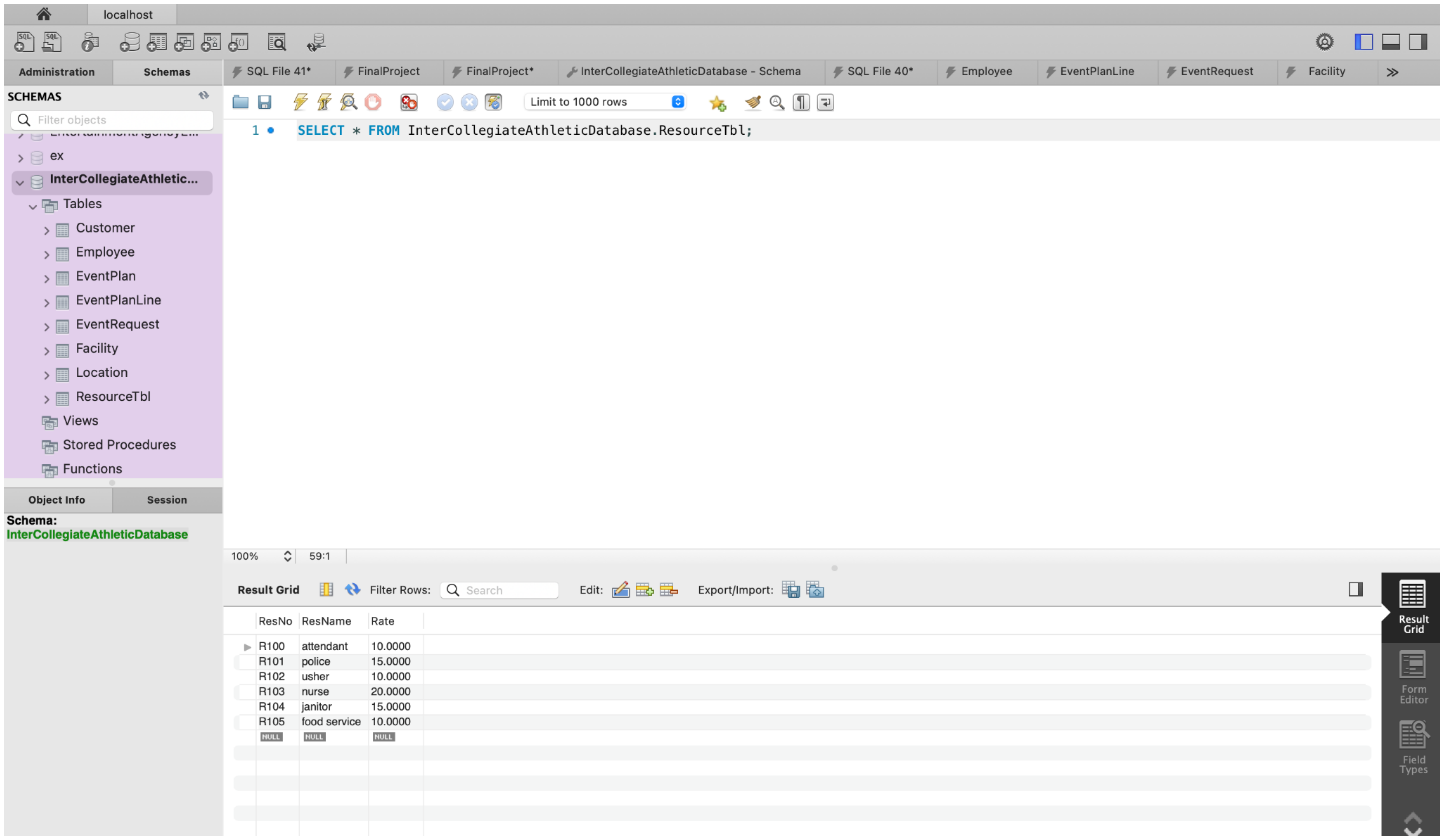
```
SELECT * FROM InterCollegiateAthleticDatabase.EVENTPLANLINE;
```

PlanNo	LineNo	TimeStart	TimeEnd	NumberFld	LocNo	ResNo
P100	1	2018-10-25 08:00:00	2018-10-25 17:00:00	2	L100	R100
P100	2	2018-10-25 12:00:00	2018-10-25 17:00:00	2	L101	R101
P100	3	2018-10-25 07:00:00	2018-10-25 16:30:00	1	L102	R102
P100	4	2018-10-25 18:00:00	2018-10-25 22:00:00	2	L100	R102
P101	1	2018-12-03 18:00:00	2018-12-03 20:00:00	2	L103	R100
P101	2	2018-12-03 18:30:00	2018-12-03 19:00:00	4	L105	R100
P101	3	2018-12-03 19:00:00	2018-12-03 20:00:00	2	L103	R103
P102	1	2018-12-05 18:00:00	2018-12-05 19:00:00	2	L103	R100
P102	2	2018-12-05 18:00:00	2018-12-05 21:00:00	4	L105	R100
P102	3	2018-12-05 19:00:00	2018-12-05 22:00:00	2	L103	R103
P103	1	2018-12-12 18:00:00	2018-12-12 21:00:00	2	L103	R100
P103	2	2018-12-12 18:00:00	2018-12-12 21:00:00	4	L105	R100
P103	3	2018-12-12 19:00:00	2018-12-12 22:00:00	2	L103	R103
P104	1	2018-10-26 18:00:00	2018-10-26 22:00:00	4	L101	R104

Step 4 Use MySQL Workbench to enter and run SQL statements

Double-click on the Intercollegiate Athletic Database to set it as the default database. When you do that, MySQL Workbench should display the database in bold.

Open a SQL editor tab. Then, enter and run this SQL statement:
SELECT * FROM InterCollegiateAthleticDatabase.ResourceTbl;



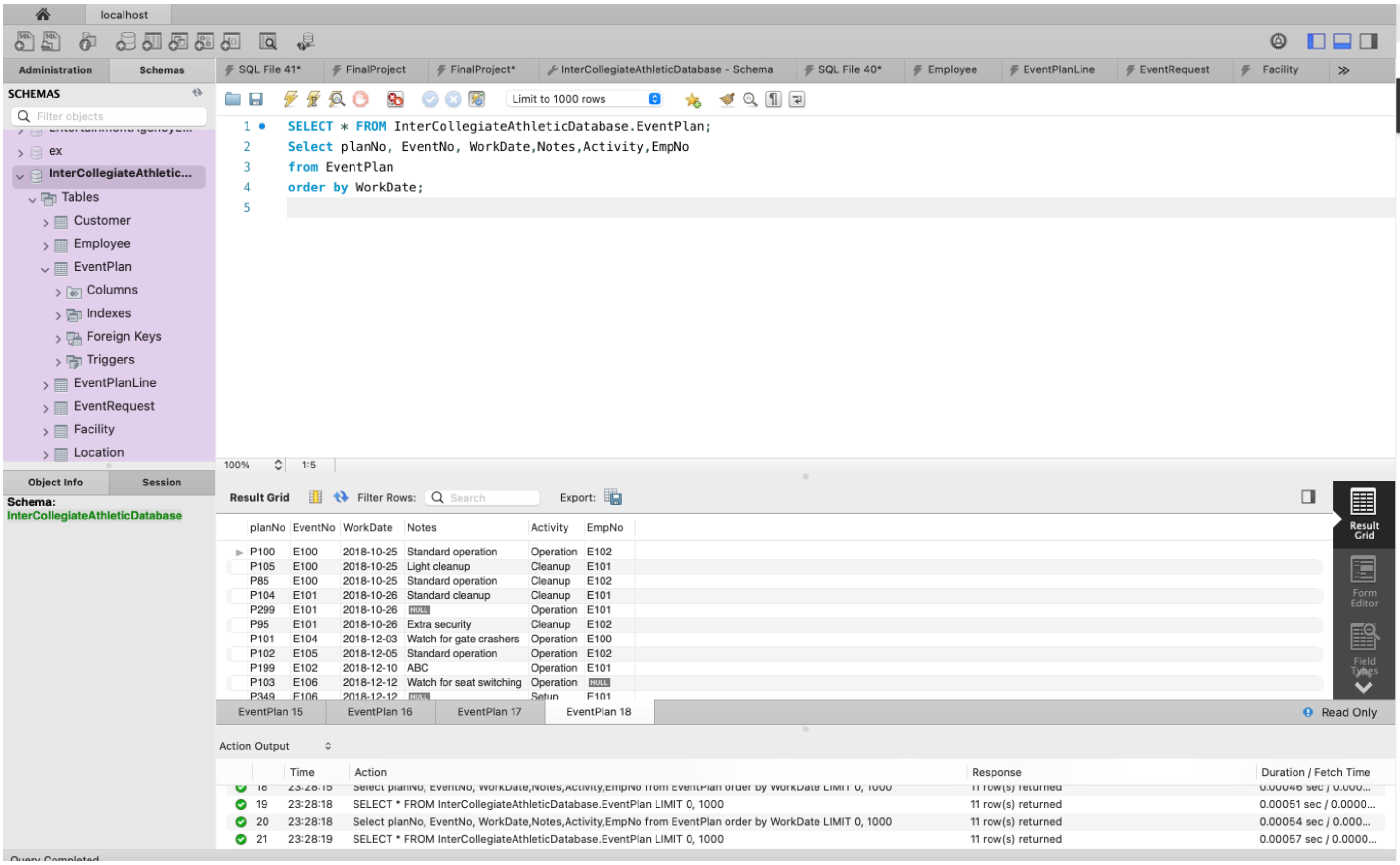
```
SELECT * FROM InterCollegiateAthleticDatabase.ResourceTbl;
```

ResNo	ResName	Rate
R100	attendant	10.0000
R101	police	15.0000
R102	usher	10.0000
R103	nurse	20.0000
R104	janitor	15.0000
R105	food service	10.0000
NULL	NULL	NULL

3. How to retrieve data from a single table

1. Write a SELECT statement that returns four columns from the eventPlan: planNo ,eventNo, workdate , and Notes, Activity,employeenumber . Then, run this statement to make sure it works correctly. Add an ORDER BY clause to this statement that sorts the result set by date in descending sequence.

```
SELECT * FROM InterCollegiateAthleticDatabase.EventPlan;
Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo
from EventPlan
order by WorkDate;
```

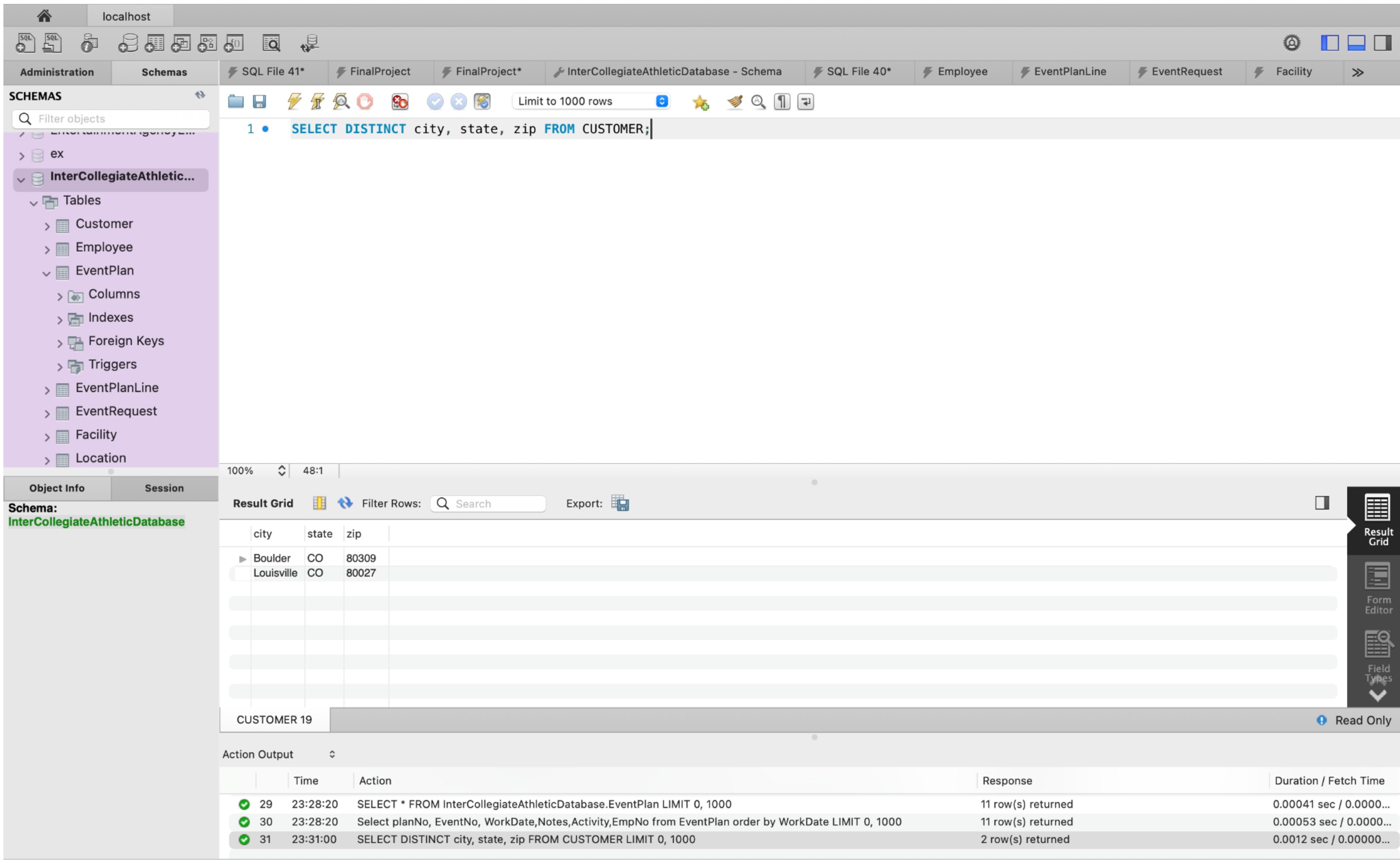


```
SELECT * FROM InterCollegiateAthleticDatabase.EventPlan;
Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo
from EventPlan
order by WorkDate;
```

planNo	EventNo	WorkDate	Notes	Activity	EmpNo
P100	E100	2018-10-25	Standard operation	Operation	E102
P105	E100	2018-10-25	Light cleanup	Cleanup	E101
P85	E100	2018-10-25	Standard operation	Cleanup	E102
P104	E101	2018-10-26	Standard cleanup	Cleanup	E101
P299	E101	2018-10-26	NULL	Operation	E101
P95	E101	2018-10-26	Extra security	Cleanup	E102
P101	E104	2018-12-03	Watch for gate crashers	Operation	E100
P102	E105	2018-12-05	Standard operation	Operation	E102
P199	E102	2018-12-10	ABC	Operation	E101
P103	E106	2018-12-12	Watch for seat switching	Operation	NULL
P349	E106	2018-12-12	NULL	Setup	E101

```
    Time      Action                                                                                         Response             Duration / Fetch Time
18  23:28:15  Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo from EventPlan order by WorkDate LIMIT 0, 1000  11 row(s) returned   0.00046 sec / 0.000...
19  23:28:18  SELECT * FROM InterCollegiateAthleticDatabase.EventPlan LIMIT 0, 1000                                11 row(s) returned   0.00051 sec / 0.0000...
20  23:28:18  Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo from EventPlan order by WorkDate LIMIT 0, 1000  11 row(s) returned   0.00054 sec / 0.000...
21  23:28:19  SELECT * FROM InterCollegiateAthleticDatabase.EventPlan LIMIT 0, 1000                                11 row(s) returned   0.00057 sec / 0.0000...
```

2. List the city, state, and zip codes in the customer table. Your result should not have duplicates



Schema: InterCollegiateAthleticDatabase

```
SELECT DISTINCT city, state, zip FROM CUSTOMER;
```

city	state	zip
Boulder	CO	80309
Louisville	CO	80027

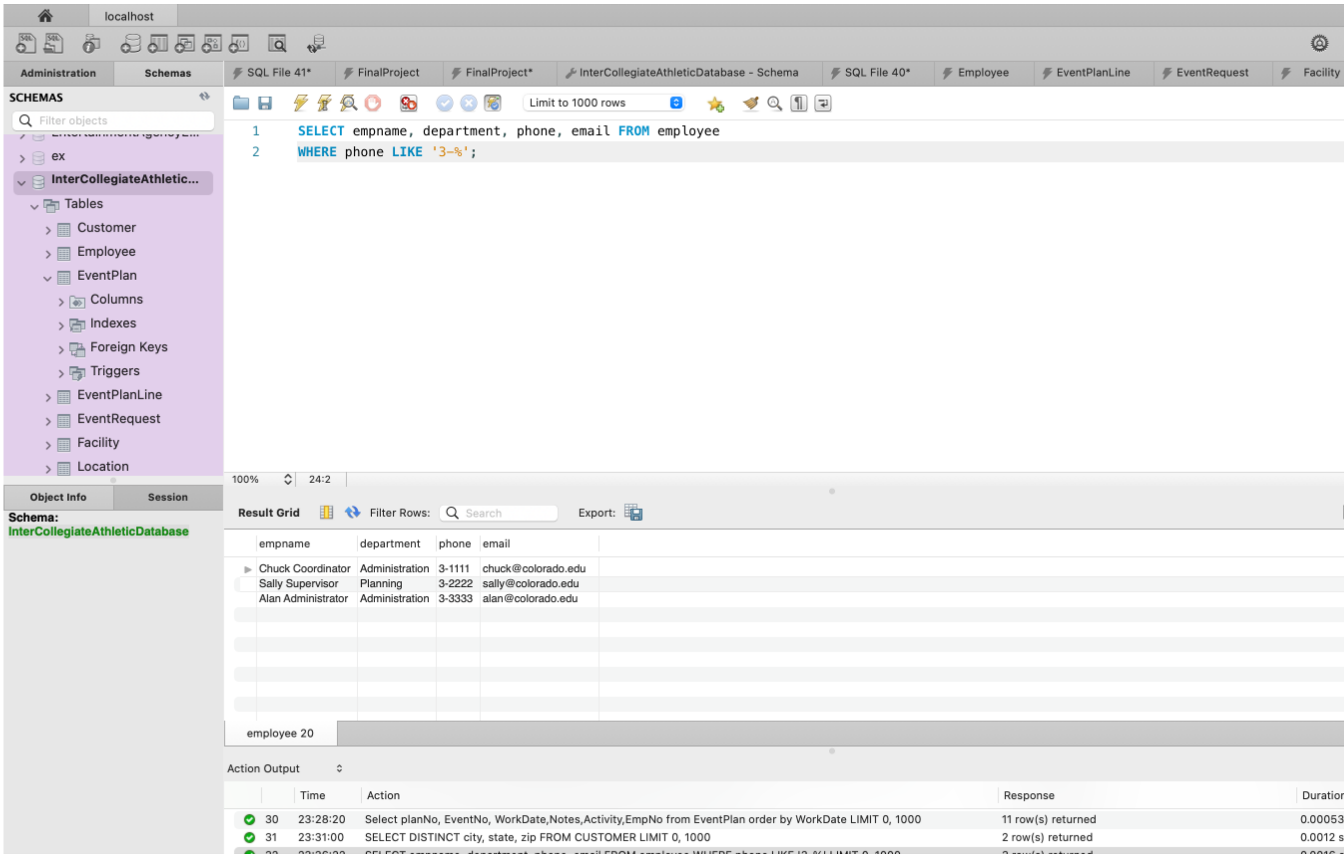
CUSTOMER 19

Action Output

	Time	Action	Response	Duration / Fetch Time
29	23:28:20	SELECT * FROM InterCollegiateAthleticDatabase.EventPlan LIMIT 0, 1000	11 row(s) returned	0.00041 sec / 0.0000...
30	23:28:20	Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo from EventPlan order by WorkDate LIMIT 0, 1000	11 row(s) returned	0.00053 sec / 0.0000...
31	23:31:00	SELECT DISTINCT city, state, zip FROM CUSTOMER LIMIT 0, 1000	2 row(s) returned	0.0012 sec / 0.00000...

3. List the name, department, phone number, and email address of employees with a phone number beginning with “3-”

```
SELECT empname, department,
phone,
 email FROM employee
WHERE phone LIKE '3-%';
```

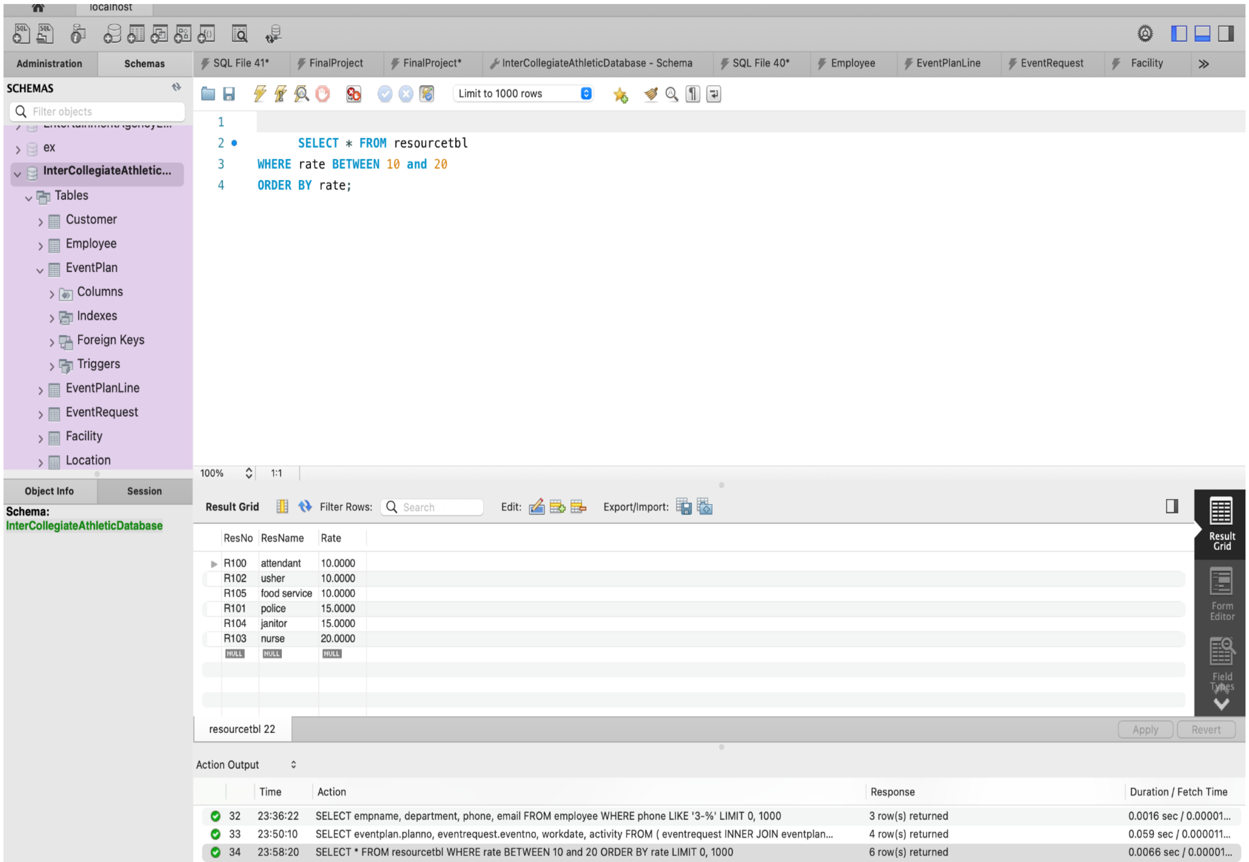


```
SELECT empname, department, phone, email FROM employee
WHERE phone LIKE '3-%';
```

empname	department	phone	email
Chuck Coordinator	Administration	3-1111	chuck@colorado.edu
Sally Supervisor	Planning	3-2222	sally@colorado.edu
Alan Administrator	Administration	3-3333	alan@colorado.edu

		Time	Action	Response	Duration
✓	30	23:28:20	Select planNo, EventNo, WorkDate,Notes,Activity,EmpNo from EventPlan order by WorkDate LIMIT 0, 1000	11 row(s) returned	0.00053
✓	31	23:31:00	SELECT DISTINCT city, state, zip FROM CUSTOMER LIMIT 0, 1000	2 row(s) returned	0.0012 s

List all columns of the resource table with a rate between $10 and $20. Sort the result by rate.



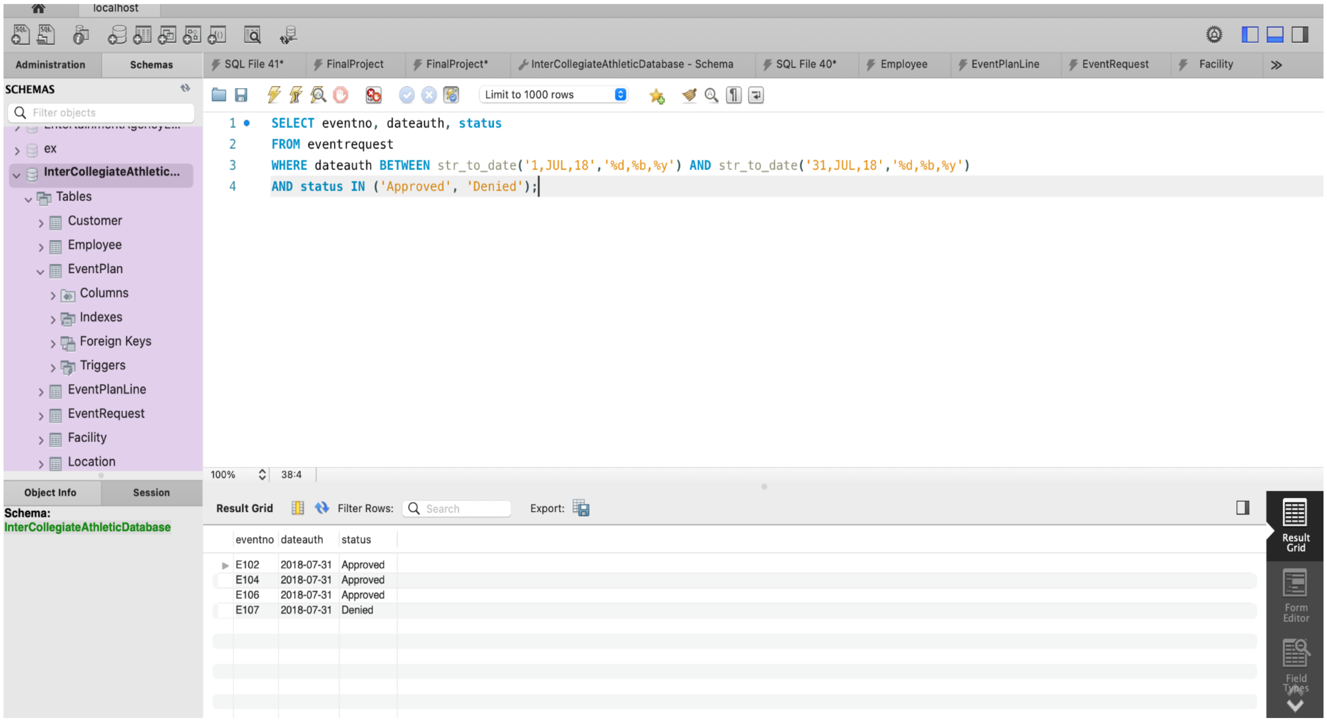
```
      SELECT * FROM resourcetbl
WHERE rate BETWEEN 10 and 20
ORDER BY rate;
```

ResNo	ResName	Rate
R100	attendant	10.0000
R102	usher	10.0000
R105	food service	10.0000
R101	police	15.0000
R104	janitor	15.0000
R103	nurse	20.0000
NULL	NULL	NULL

```
    Time      Action                                                                                     Response            Duration / Fetch Time
✓ 32 23:36:22 SELECT empname, department, phone, email FROM employee WHERE phone LIKE '3-%' LIMIT 0, 1000  3 row(s) returned   0.0016 sec / 0.00001...
✓ 33 23:50:10 SELECT eventplan.planno, eventrequest.eventno, workdate, activity FROM ( eventrequest INNER JOIN eventplan...  4 row(s) returned   0.059 sec / 0.000011...
✓ 34 23:58:20 SELECT * FROM resourcetbl WHERE rate BETWEEN 10 and 20 ORDER BY rate LIMIT 0, 1000         6 row(s) returned   0.0066 sec / 0.00001...
```

List the event requests with a status of “Approved” or “Denied” and an authorized date in July 2018. Include the event number, authorization date, and status in the output.

```
SELECT eventno, dateauth, status
FROM eventrequest
WHERE dateauth BETWEEN
str_to_date('1,JUL,18','%d,%b,%y') AND
str_to_date('31,JUL,18','%d,%b,%y')
AND status IN ('Approved', 'Denied');
```

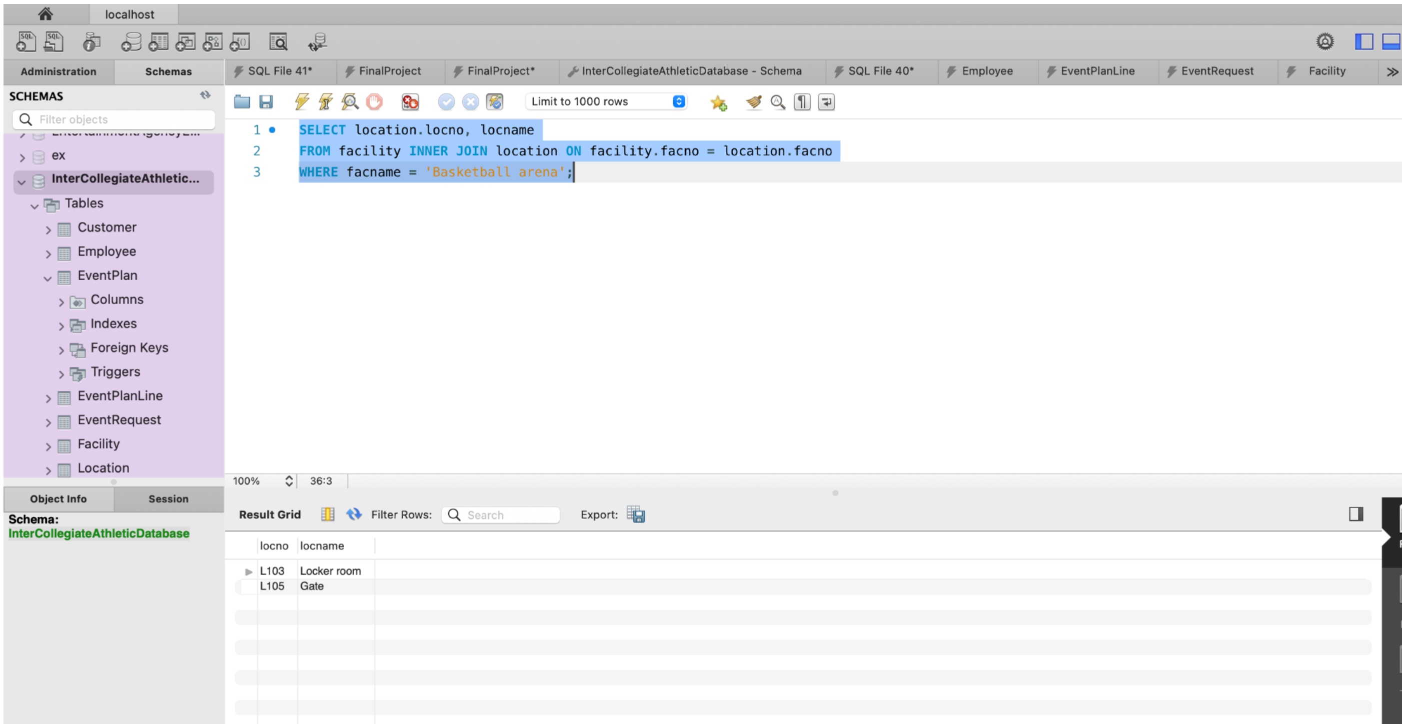


```
SELECT eventno, dateauth, status
FROM eventrequest
WHERE dateauth BETWEEN str_to_date('1,JUL,18','%d,%b,%y') AND str_to_date('31,JUL,18','%d,%b,%y')
AND status IN ('Approved', 'Denied');
```

eventno	dateauth	status
E102	2018-07-31	Approved
E104	2018-07-31	Approved
E106	2018-07-31	Approved
E107	2018-07-31	Denied

4 How to retrieve data from two or more tables

List the location number and name of locations that are part of the "Basketball arena". Your WHERE clause should not have a condition involving the facility number compared to a constant ("F101"). Instead, you should use a condition on the FacName column for the value of "Basketball arena".

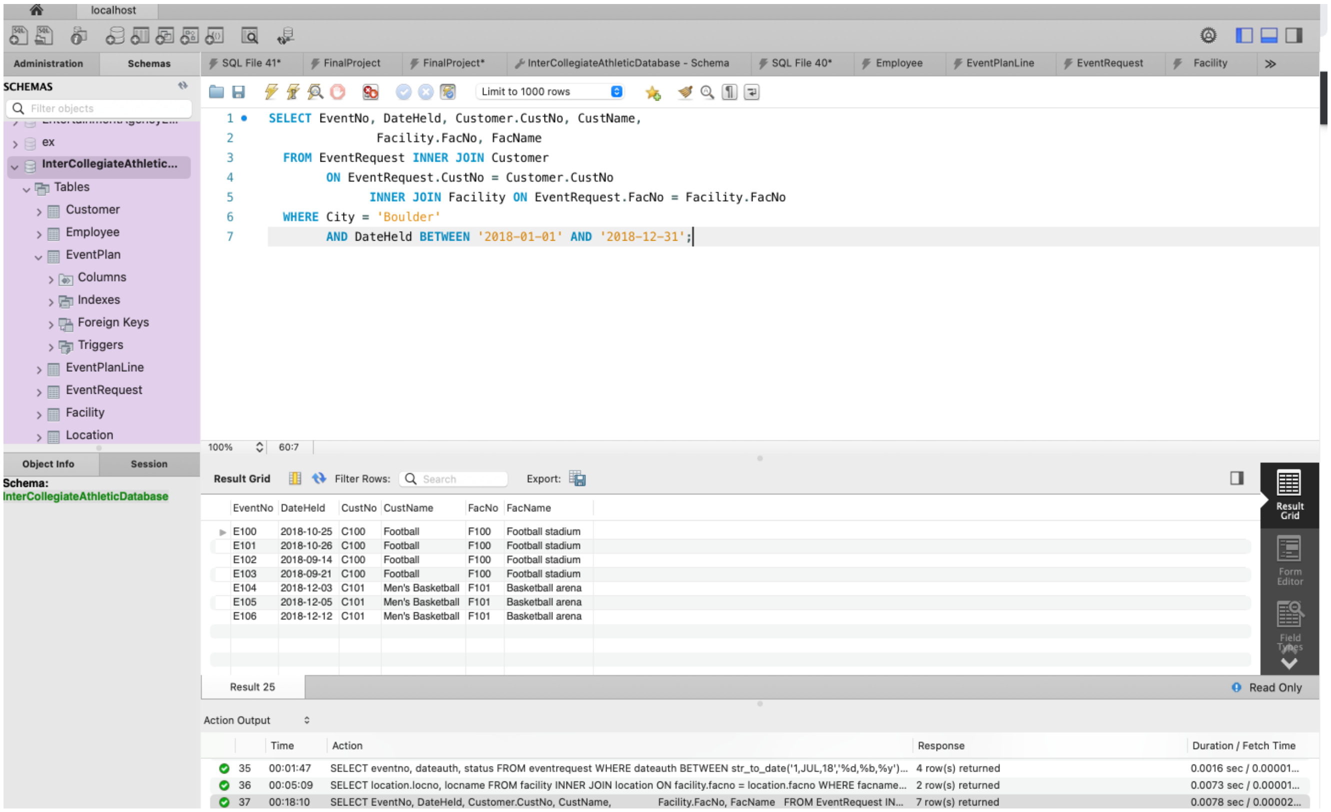


```
SELECT location.locno, locname
FROM facility INNER JOIN location ON facility.facno = location.facno
WHERE facname = 'Basketball arena';
```

```
locno  locname
L103   Locker room
L105   Gate
```

List the event number, date held, customer number, customer name, facility number, and facility name of 2018 events placed by Boulder customers.

```
SELECT EventNo, DateHeld,
Customer.CustNo, CustName,Facility.FacNo, FacName
FROM EventRequest INNER JOIN Customer
ON EventRequest.CustNo = Customer.CustNo INNER JOIN Facility
ON EventRequest.FacNo = Facility.FacNo
  WHERE City = 'Boulder'
AND DateHeld BETWEEN '2018-01-01' AND '2018-12-31';
```



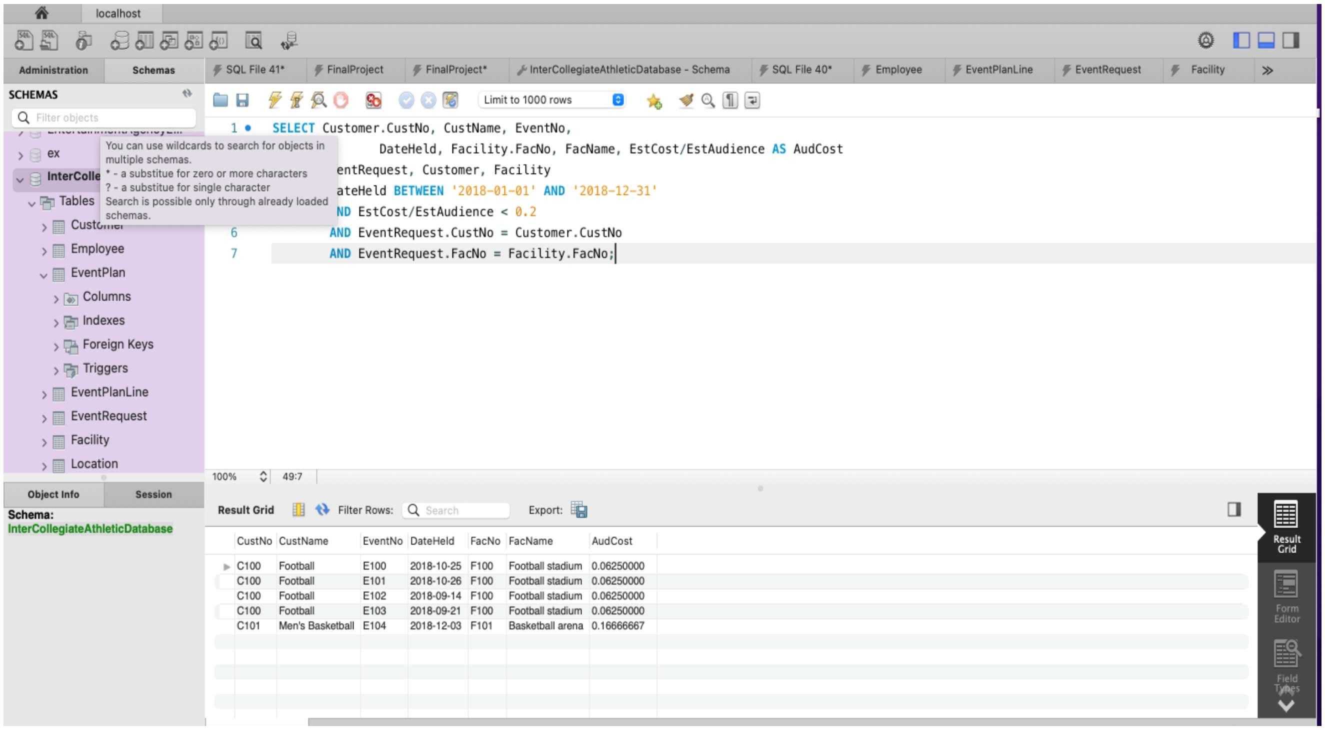
```
SELECT EventNo, DateHeld, Customer.CustNo, CustName,
               Facility.FacNo, FacName
  FROM EventRequest INNER JOIN Customer
        ON EventRequest.CustNo = Customer.CustNo
              INNER JOIN Facility ON EventRequest.FacNo = Facility.FacNo
  WHERE City = 'Boulder'
        AND DateHeld BETWEEN '2018-01-01' AND '2018-12-31';
```

EventNo	DateHeld	CustNo	CustName	FacNo	FacName
E100	2018-10-25	C100	Football	F100	Football stadium
E101	2018-10-26	C100	Football	F100	Football stadium
E102	2018-09-14	C100	Football	F100	Football stadium
E103	2018-09-21	C100	Football	F100	Football stadium
E104	2018-12-03	C101	Men's Basketball	F101	Basketball arena
E105	2018-12-05	C101	Men's Basketball	F101	Basketball arena
E106	2018-12-12	C101	Men's Basketball	F101	Basketball arena

```
    Time      Action                                                                                            Response            Duration / Fetch Time
35  00:01:47  SELECT eventno, dateauth, status FROM eventrequest WHERE dateauth BETWEEN str_to_date('1,JUL,18','%d,%b,%y')...  4 row(s) returned  0.0016 sec / 0.00001...
36  00:05:09  SELECT location.locno, locname FROM facility INNER JOIN location ON facility.facno = location.facno WHERE facname...  2 row(s) returned  0.0073 sec / 0.00001...
37  00:18:10  SELECT EventNo, DateHeld, Customer.CustNo, CustName,           Facility.FacNo, FacName   FROM EventRequest IN...  7 row(s) returned  0.0078 sec / 0.00002...
```

List the customer number, customer name, event number, date held, facility number,

```
SELECT Customer.CustNo, CustName, EventNo,
               DateHeld, Facility.FacNo, FacName,
EstCost/EstAudience AS AudCost
  FROM EventRequest, Customer, Facility
  WHERE DateHeld BETWEEN '2018-01-01' AND '2018-12-31'
        AND EstCost/EstAudience < 0.2
        AND EventRequest.CustNo = Customer.CustNo
        AND EventRequest.FacNo = Facility.FacNo;
```



You can use wildcards to search for objects in multiple schemas.
* - a substitue for zero or more characters
? - a substitue for single character
Search is possible only through already loaded schemas.

Schema: InterCollegiateAthleticDatabase

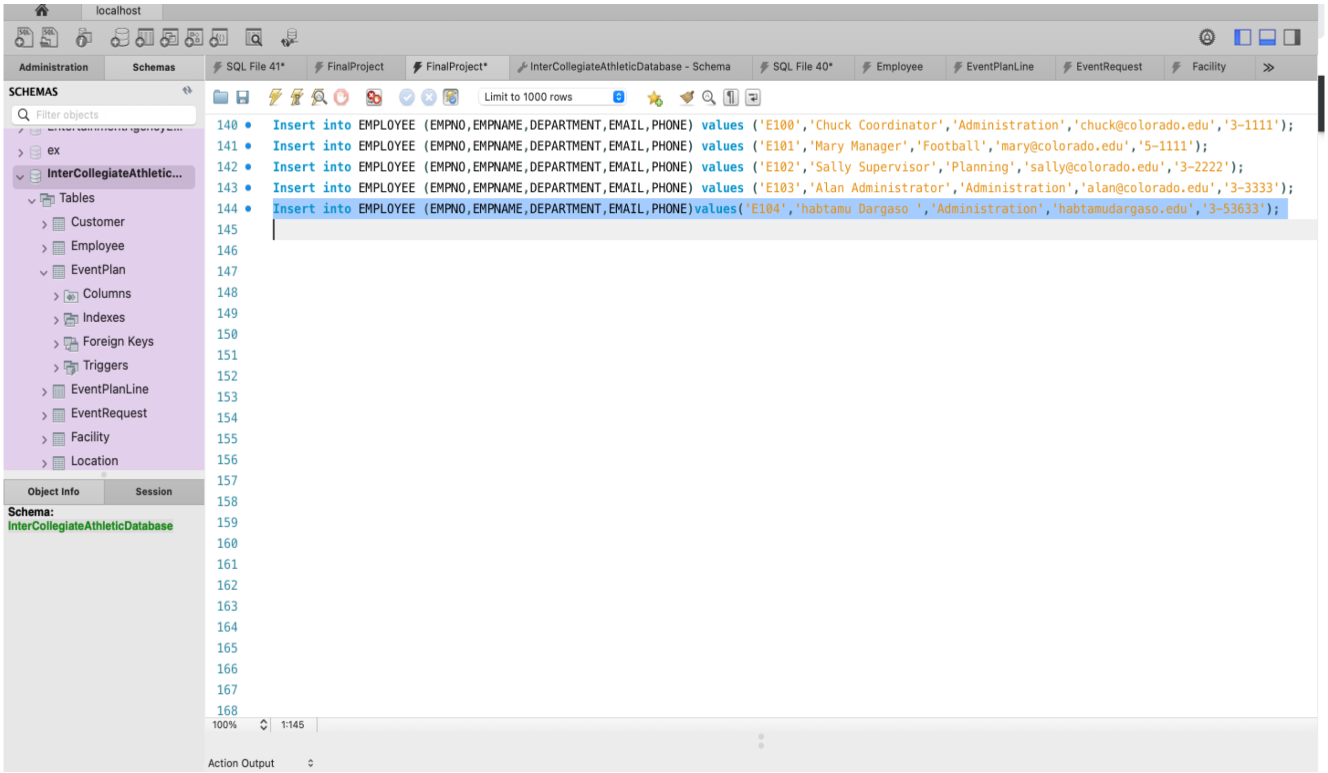
```
SELECT Customer.CustNo, CustName, EventNo,
          DateHeld, Facility.FacNo, FacName, EstCost/EstAudience AS AudCost
entRequest, Customer, Facility
ateHeld BETWEEN '2018-01-01' AND '2018-12-31'
ND EstCost/EstAudience < 0.2
    AND EventRequest.CustNo = Customer.CustNo
    AND EventRequest.FacNo = Facility.FacNo;
```

CustNo	CustName	EventNo	DateHeld	FacNo	FacName	AudCost
C100	Football	E100	2018-10-25	F100	Football stadium	0.06250000
C100	Football	E101	2018-10-26	F100	Football stadium	0.06250000
C100	Football	E102	2018-09-14	F100	Football stadium	0.06250000
C100	Football	E103	2018-09-21	F100	Football stadium	0.06250000
C101	Men's Basketball	E104	2018-12-03	F101	Basketball arena	0.16666667

5 How to insert, update and delete data

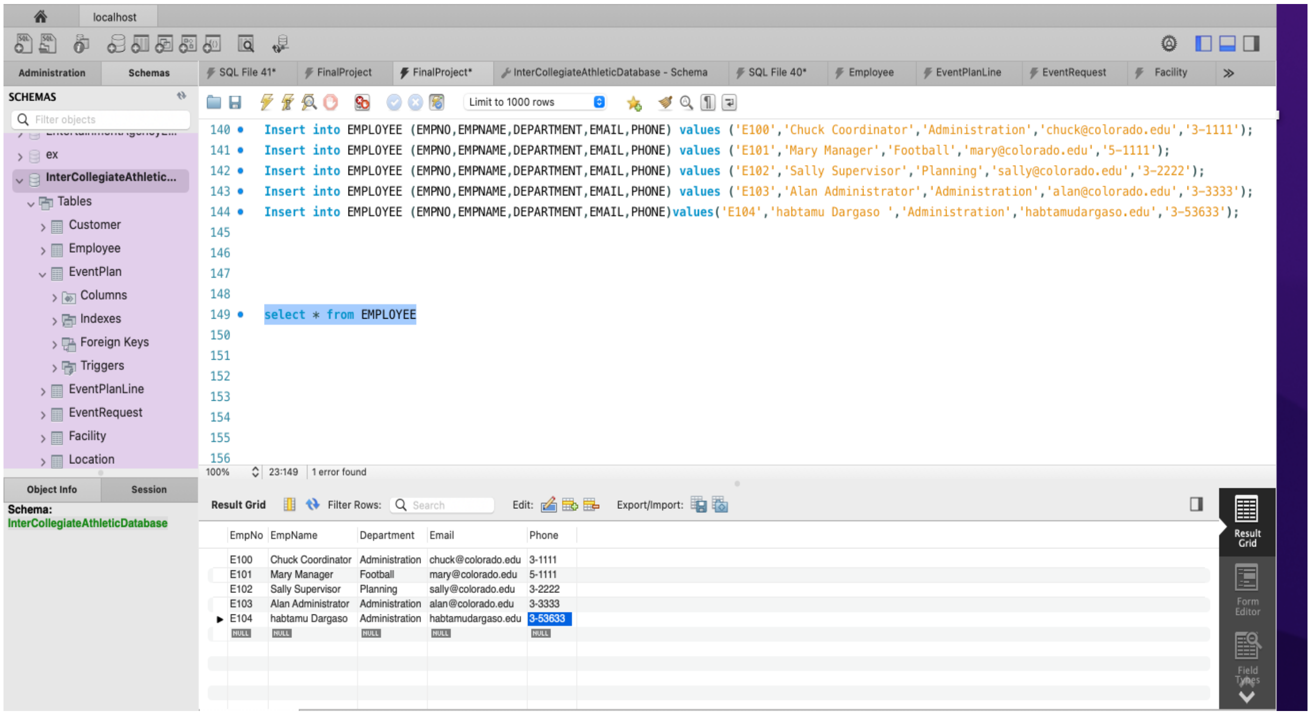
Write an INSERT statement that adds this row to the employee table

```
Insert into EMPLOYEE
(EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE)
values('E104','habtamu Dargaso ','Administration',
'habtamudargaso.edu','3-53633');
```



```sql
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E100','Chuck Coordinator','Administration','chuck@colorado.edu','3-1111');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E101','Mary Manager','Football','mary@colorado.edu','5-1111');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E102','Sally Supervisor','Planning','sally@colorado.edu','3-2222');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E103','Alan Administrator','Administration','alan@colorado.edu','3-3333');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE)values('E104','habtamu Dargaso ','Administration','habtamudargaso.edu','3-53633');
```

Select * from Employee



```sql
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E100','Chuck Coordinator','Administration','chuck@colorado.edu','3-1111');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E101','Mary Manager','Football','mary@colorado.edu','5-1111');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E102','Sally Supervisor','Planning','sally@colorado.edu','3-2222');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE) values ('E103','Alan Administrator','Administration','alan@colorado.edu','3-3333');
Insert into EMPLOYEE (EMPNO,EMPNAME,DEPARTMENT,EMAIL,PHONE)values('E104','habtamu Dargaso ','Administration','habtamudargaso.edu','3-53633');




select * from EMPLOYEE
```

100% 23:149 1 error found

EmpNo	EmpName	Department	Email	Phone
E100	Chuck Coordinator	Administration	chuck@colorado.edu	3-1111
E101	Mary Manager	Football	mary@colorado.edu	5-1111
E102	Sally Supervisor	Planning	sally@colorado.edu	3-2222
E103	Alan Administrator	Administration	alan@colorado.edu	3-3333
E104	habtamu Dargaso	Administration	habtamudargaso.edu	3-53633
NULL	NULL	NULL	NULL	NULL