Information Management

Assignment 2

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Q1. Show all the records from (all the) table(s) you have created

```
CREATE TABLE student
(
STUDID NUMBER(6) PRIMARY KEY,
STDFIRSTNAME varchar2(30) NOT NULL,
STDLASTNAME varchar2(30),
STREAM varchar2(30) CHECK (STREAM IN ('Accounting','Finance','IB','Marketing','MIS','Analytics'))
);

DESC STUDENT
```

```
Table STUDENT created.

Name          Null?    Type
------------ -------- ------------
STUDID        NOT NULL NUMBER(6)
STDFIRSTNAME NOT NULL VARCHAR2(30)
STDLASTNAME           VARCHAR2(30)
STREAM                VARCHAR2(30)
```

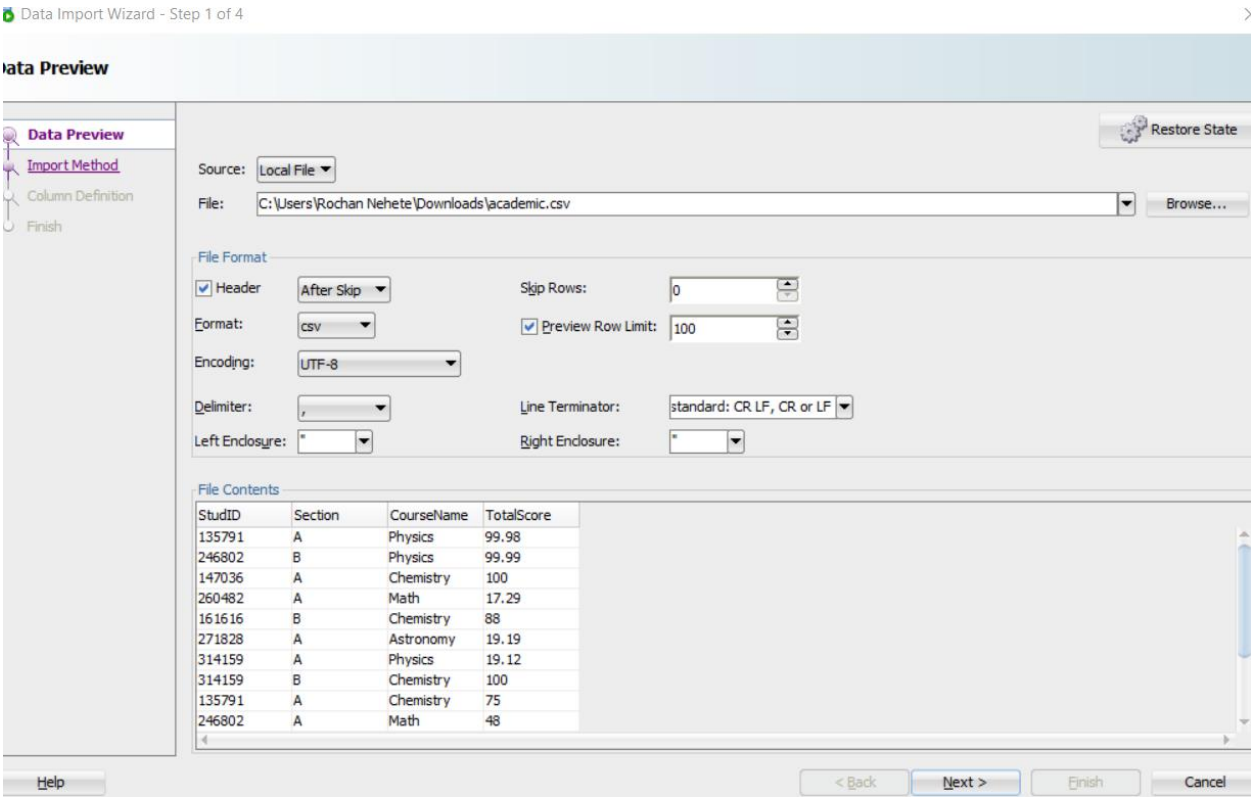
```
DESC STUDENT

CREATE TABLE academic
(
STUDID NUMBER(6),
SECTION varchar2(1) CHECK (SECTION IN ('A','B')),
COURSENAME varchar2(30),
TOTALSCORE NUMBER(5,2) CHECK (TOTALSCORE BETWEEN 0.00 AND 100.00),
FOREIGN KEY (STUDID) REFERENCES student (STUDID)
);

DESC academic;
```

```
Table ACADEMIC created.

Name        Null? Type
----------- ----- ------------
STUDID            NUMBER(6)
SECTION           VARCHAR2(1)
COURSENAME        VARCHAR2(30)
TOTALSCORE        NUMBER(5,2)
```




```
select * from academic;
```

Script Output | Query Result

SQL | All Rows Fetched: 15 in 0.006 seconds

	STUDID	SECTION	COURSENAME	TOTALSCORE
1	135791	A	Physics	99.98
2	246802	B	Physics	99.99
3	147036	A	Chemistry	100
4	260482	A	Math	17.29
5	161616	B	Chemistry	88
6	271828	A	Astronomy	19.19
7	314159	A	Physics	19.12

SQL | All Rows Fetched: 15 in 0.009 seconds

	STUDID	SECTION	COURSENAME	TOTALSCORE
1	135791	A	Physics	99.98
2	246802	B	Physics	99.99
3	147036	A	Chemistry	100
4	260482	A	Math	17.29
5	161616	B	Chemistry	88
6	271828	A	Astronomy	19.19
7	314159	A	Physics	19.12
8	314159	B	Chemistry	100
9	135791	A	Chemistry	75
10	246802	A	Math	48
11	147036	A	Math	67
12	260482	A	Chemistry	92.71
13	161616	B	Astronomy	88.88
14	271828	A	Physics	91.91
15	314159	A	Math	91.21

```
select * from student;
```

ript Output | Query Result

SQL | All Rows Fetched: 7 in 0.216 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	STREAM
1	135791	Albert	Einstein	Accounting
2	246802	Homi	Bhabha	Finance
3	147036	Marie	Daly	IB
4	260482	Srinivasa	Ramanuja	Analytics
5	161616	Marie	Curie	Analytics
6	271828	Vikram	Sarabhai	MIS

Q2. Display only the first and last names, and courses each student is enrolled in

```
SELECT T1.StdFirstName,T1.StdLastName,T2.CourseName
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID;
```

Query Result

SQL | All Rows Fetched: 15 in 0.02 seconds

STDFIRSTNAME	STDLASTNAME	COURSENAME
Albert	Einstein	Physics
Homi	Bhabha	Physics
Marie	Daly	Chemistry
Srinivasa	Ramanuja	Math
Marie	Curie	Chemistry
Vikram	Sarabhai	Astronomy
Chien	Wu	Physics
Chien	Wu	Chemistry
Albert	Einstein	Chemistry
Homi	Bhabha	Math
Marie	Daly	Math
Srinivasa	Ramanuja	Chemistry
Marie	Curie	Astronomy
Vikram	Sarabhai	Physics
Chien	Wu	Math

Q3. Which students are failing in which classes, where the failing grade is 40%?

```
SELECT T1.StdFirstName,T1.StdLastName,T2.CourseName,T2.TotalScore,T2.SECTION
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID
WHERE TotalScore <= 40.00;
```

Script Output | Query Result

SQL | All Rows Fetched: 3 in 0.015 seconds

	STDFIRSTNAME	STDLASTNAME	COURSENAME	TOTALSCORE	SECTION
1	Srinivasa	Ramanuja	Math	17.29	A
2	Vikram	Sarabhai	Astronomy	19.19	A
3	Chien	Wu	Physics	19.12	A

Q4. Which students from the Analytics stream are failing?

```
SELECT T1.StdFirstName,T1.StdLastName,T2.CourseName,T2.TotalScore,T2.SECTION
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID
WHERE TotalScore <= 40.00 and STREAM='Analytics';
```

t Output × Query Result ×

SQL | All Rows Fetched: 1 in 0.021 seconds

STDFIRSTNAME	STDLASTNAME	COURSENAME	TOTALSCORE	SECTION
Srinivasa	Ramanuja	Math	17.29	A

Q5. Now alter the table(s) by adding a Professor to each class being taught. Right now keep the professor name empty. Show the new table(s)

```
Alter table academic
Add Professor VARCHAR(30);

SELECT * FROM academic;
```

ipt Output × Query Result ×

SQL | All Rows Fetched: 15 in 0.012 seconds

	STUDID	SECTION	COURSENAME	TOTALSCORE	PROFESSOR
1	135791	A	Physics	99.98	(null)
2	246802	B	Physics	99.99	(null)
3	147036	A	Chemistry	100	(null)
4	260482	A	Math	17.29	(null)
5	161616	B	Chemistry	88	(null)
6	271828	A	Astronomy	19.19	(null)
7	314159	A	Physics	19.12	(null)
8	314159	B	Chemistry	100	(null)
9	135791	A	Chemistry	75	(null)
0	246802	A	Math	48	(null)
1	147036	A	Math	67	(null)
2	260482	A	Chemistry	92.71	(null)
3	161616	B	Astronomy	88.88	(null)
4	271828	A	Physics	91.91	(null)
5	314159	A	Math	91.21	(null)

Q6. Change the student name ‘Marie Curie’ to ‘Pierre Curie’

```
UPDATE student
SET StdFirstName='Pierre'
WHERE StdFirstName='Marie' and StdLastName='Curie';

SELECT * FROM student;
```

ript Output | Query Result | Query Result 1

SQL | All Rows Fetched: 7 in 0.008 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	STREAM
1	135791	Albert	Einstein	Accounting
2	246802	Homi	Bhabha	Finance
3	147036	Marie	Daly	IB
4	260482	Srinivasa	Ramanuja	Analytics
5	161616	Pierre	Curie	Analytics
6	271828	Vikram	Sarabhai	MIS
7	314159	Chien	Wu	Marketing

Q7. Display the full record for those students whose first name contains the regular expression ‘ie’. For example, the word lied has the regular expression ‘ie’, while lai does not.

```
SELECT *
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID
WHERE StdFirstName like '%ie%';
```

Script Output | Query Result | Query Result 1 | Query Result 2

SQL | All Rows Fetched: 7 in 0.015 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	STREAM	STUDID_1	SECTION	COURSENAME	TOTALSCORE	PROFESSOR
1	147036	Marie	Daly	IB	147036	A	Chemistry	100	(null)
2	161616	Pierre	Curie	Analytics	161616	B	Chemistry	88	(null)
3	314159	Chien	Wu	Marketing	314159	A	Physics	19.12	(null)
4	314159	Chien	Wu	Marketing	314159	B	Chemistry	100	(null)
5	147036	Marie	Daly	IB	147036	A	Math	67	(null)
6	161616	Pierre	Curie	Analytics	161616	B	Astronomy	88.88	(null)
7	314159	Chien	Wu	Marketing	314159	A	Math	91.21	(null)

Q8. Find all the students from the Analytics stream whose score is greater than the average of the Analytic stream students.

```
SELECT *
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID
WHERE STREAM='Analytics'
and
t2.totalscore >
(
    SELECT avg(t2.totalscore)
    FROM student T1
    LEFT JOIN academic T2
    ON T1.STUDID=T2.STUDID
    WHERE STREAM='Analytics'
);
```

cript Output | Query Result | Query Result 1 | Query Result 2

SQL | All Rows Fetched: 3 in 0.005 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	STREAM	STUDID_1	SECTION	COURSENAME	TOTALSCORE	PROFESSOR
1	260482	Srinivasa	Ramanuja	Analytics	260482	A	Chemistry	92.71	(null)
2	161616	Pierre	Curie	Analytics	161616	B	Chemistry	88	(null)
3	161616	Pierre	Curie	Analytics	161616	B	Astronomy	88.88	(null)

Q9. Print the information from these columns StudID, StdFirstName, StdLastName, TotalScore, CourseName, Section, Stream sorted on the last name of the students

```
SELECT T1.StudID,T1.StdFirstName,T1.StdLastName,T2.TotalScore,T2.CourseName,T2.SECTION,T1.Stream
FROM student T1
LEFT JOIN academic T2
ON T1.STUDID=T2.STUDID
ORDER BY T1.StdLastName;
```

Query Result | Query Result 1 | Query Result 2

SQL | All Rows Fetched: 15 in 0.012 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	TOTALSCORE	COURSENAME	SECTION	STREAM
1	246802	Homi	Bhabha	48	Math	A	Finance
2	246802	Homi	Bhabha	99.99	Physics	B	Finance
3	161616	Pierre	Curie	88	Chemistry	B	Analytics
4	161616	Pierre	Curie	88.88	Astronomy	B	Analytics
5	147036	Marie	Daly	67	Math	A	IB
6	147036	Marie	Daly	100	Chemistry	A	IB
7	135791	Albert	Einstein	99.98	Physics	A	Accounting
8	135791	Albert	Einstein	75	Chemistry	A	Accounting
9	260482	Srinivasa	Ramanuja	92.71	Chemistry	A	Analytics
10	260482	Srinivasa	Ramanuja	17.29	Math	A	Analytics
11	271828	Vikram	Sarabhai	19.19	Astronomy	A	MIS

Q10. Find the student who received the highest score on each subject (ignore the sections A and B for each subject to find the topper in each subject)

```
SELECT * FROM
(SELECT T1.STUDID, T1.STDFIRSTNAME, T1.STDLASTNAME, T2.COURSENAME, T2.TOTALSCORE FROM STUDENT T1 LEFT JOIN ACADEMIC T2 ON T1.STUDID = T2.STUDID)  T1 right JOIN (

select  COURSENAME , MAX(TOTALSCORE) MAX_SCORE FROM ACADEMIC GROUP BY  COURSENAME
)
T2 ON T1.TOTALSCORE = T2.MAX_SCORE AND T1.COURSENAME=T2.COURSENAME;
```

Query Result 8 | Query Result 9

SQL | All Rows Fetched: 5 in 0.013 seconds

	STUDID	STDFIRSTNAME	STDLASTNAME	COURSENAME	TOTALSCORE	COURSENAME_1	MAX_SCORE
1	246802	Homi	Bhabha	Physics	99.99	Physics	99.99
2	147036	Marie	Daly	Chemistry	100	Chemistry	100
3	314159	Chien	Wu	Chemistry	100	Chemistry	100
4	161616	Pierre	Curie	Astronomy	88.88	Astronomy	88.88
5	314159	Chien	Wu	Math	91.21	Math	91.21