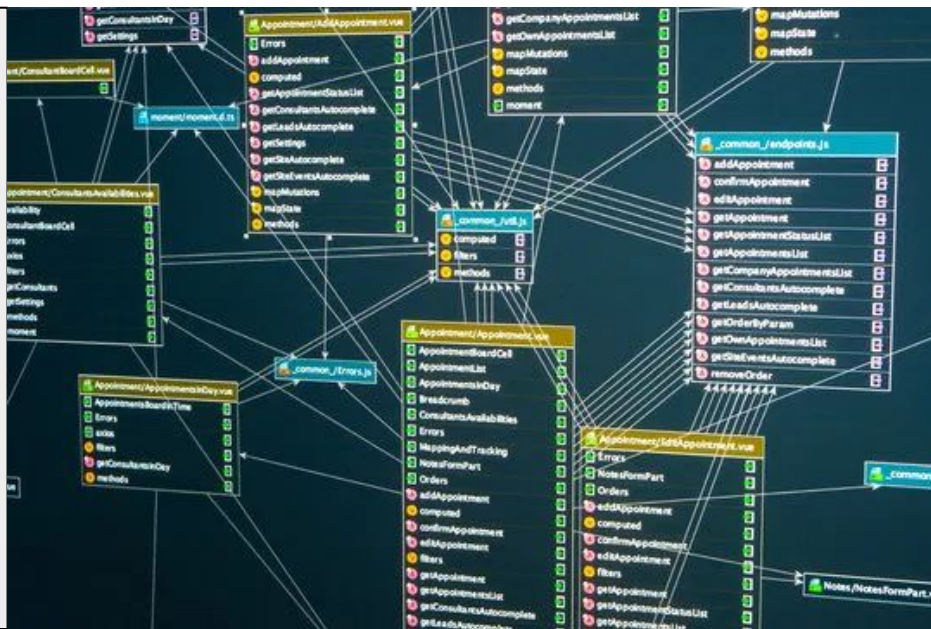
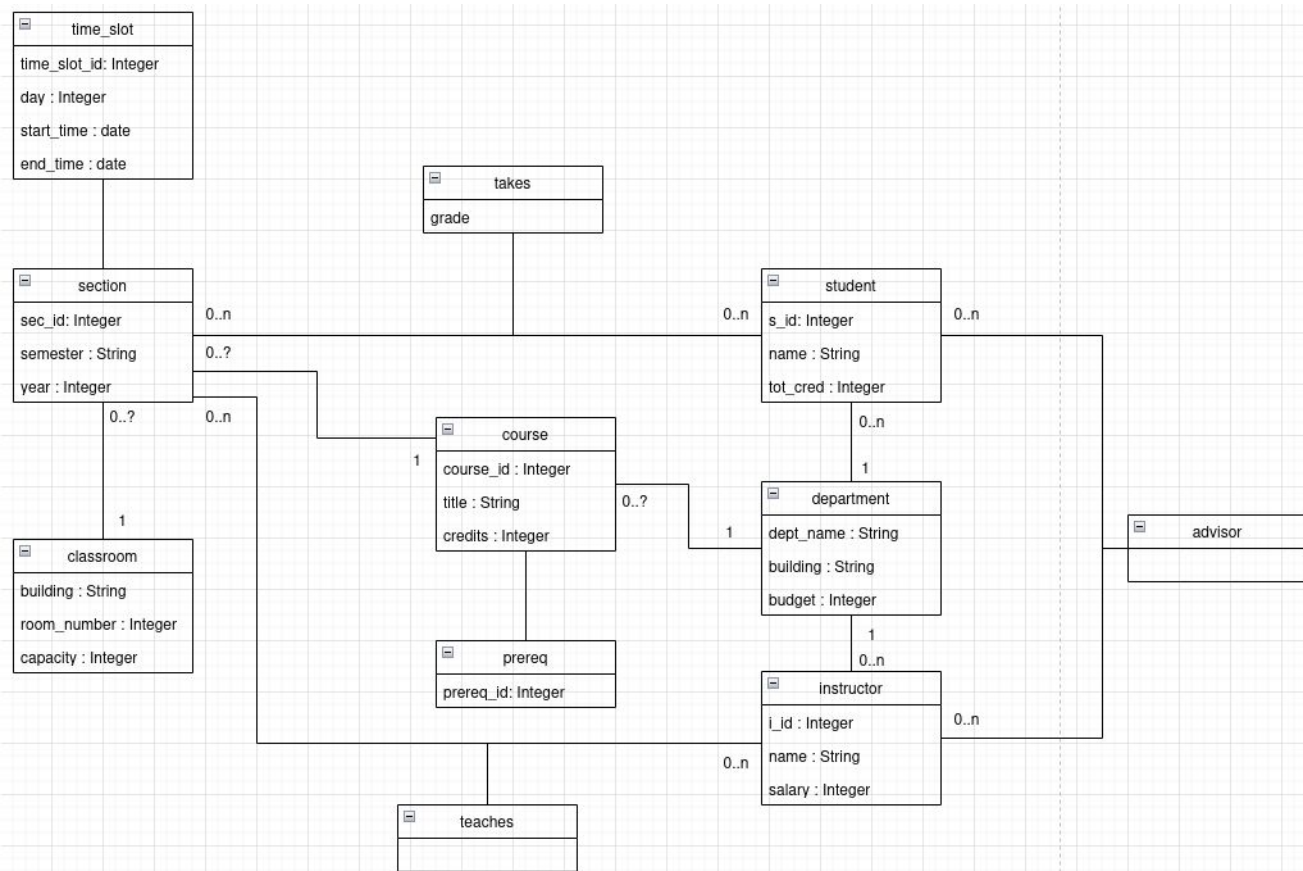


Nom de l'école :
Sup Galilée

Rédigé par :
Lucas ZHENG (12215828)




Question 1.2



I. TP1

SCRIPT en ajoutant un nouveau cours demandé dans la question 4

Le cours étant déjà présent dans la table, elle viole la contrainte d'unicité



 **APEX**

App Builder ▾

SQL Workshop ▾

Team Development ▾

Gallery

  **LZ** Lucas Zheng
tp_bda

↑ SQL Scripts \ Results

Script: **Exercise1** ⓘ Status: **Complete** ⓘ

View: ☐ Detail ☒ **Summary** ⓘ Rows: ⓘ

Number ↑	Elapsed	Statement	Feedback	Rows
166	0.02	insert into prereq values ('BIO-301', 'BIO-101')	1 row(s) inserted.	1
167	0.01	insert into prereq values ('BIO-399', 'BIO-101')	1 row(s) inserted.	1
168	0.00	insert into prereq values ('CS-190', 'CS-101')	1 row(s) inserted.	1
169	0.01	insert into prereq values ('CS-315', 'CS-101')	1 row(s) inserted.	1
170	0.00	insert into prereq values ('CS-319', 'CS-101')	1 row(s) inserted.	1
171	0.00	insert into prereq values ('CS-347', 'CS-101')	1 row(s) inserted.	1
172	0.01	insert into prereq values ('EE-181', 'PHY-101')	1 row(s) inserted.	1
173	0.00	INSERT INTO course values('BIO-101','Intro','Biology',4)	ORA-00001: unique constraint (WKSP_TPBDA.SYS_C00173391767) violated	-

Download

◀ Previous row(s) 166 - 173 of 173

173
Statements Processed

172
Successful

1
With Errors

EX2

Question 1

APEX App Builder ▾ **SQL Workshop** ▾ Team Development ▾ Gallery

Search

Schema WKSP_TPBDA

SQL Commands

Language SQL ▾ Rows 10 ▾ Clear Command Find Tables Save Run

1 DESC SECTION

Results Explain Describe Saved SQL History

Object Type TABLE Object SECTION

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SECTION	COURSE_ID	VARCHAR2	8	-	-	1	-	-	-
	SEC_ID	VARCHAR2	8	-	-	2	-	-	-
	SEMESTER	VARCHAR2	6	-	-	3	-	-	-
	TP_YEAR	NUMBER	-	4	0	4	-	-	-
	BUILDING	VARCHAR2	15	-	-	-	✓	-	-
	ROOM_NUMBER	VARCHAR2	7	-	-	-	✓	-	-
	TIME_SLOT_ID	VARCHAR2	4	-	-	-	✓	-	-

EX2 Question 1 (suite)

APEX App Builder SQL Workshop Team Development Gallery

Search

Schema WKSP_TPBDA

Language SQL Rows 20 Clear Command Find Tables Save Run

1 SELECT * FROM section


Results Explain Describe Saved SQL History

COURSE_ID	SEC_ID	SEMESTER	TP_YEAR	BUILDING	ROOM_NUMBER	TIME_SLOT_ID
BIO-101	1	Summer	2009	Painter	514	B
BIO-301	1	Summer	2010	Painter	514	A
CS-101	1	Fall	2009	Packard	101	H
CS-101	1	Spring	2010	Packard	101	F
CS-190	1	Spring	2009	Taylor	3128	E
CS-190	2	Spring	2009	Taylor	3128	A
CS-315	1	Spring	2010	Watson	120	D
CS-319	1	Spring	2010	Watson	100	B
CS-319	2	Spring	2010	Taylor	3128	C
CS-347	1	Fall	2009	Taylor	3128	A
EE-181	1	Spring	2009	Taylor	3128	C
FIN-201	1	Spring	2010	Packard	101	B
HIS-351	1	Spring	2010	Painter	514	C
MU-199	1	Spring	2010	Packard	101	D
PHY-101	1	Fall	2009	Watson	100	A

15 rows returned in 0.00 seconds Download

EX2

Question 2

 **APEX** App Builder ▾ SQL Workshop ▾ Team Development ▾ Gallery

Q Search

LZ Lucas Zheng
tp_bda

↑ SQL Commands Schema WKSP_TPBDA

Language SQL ▾ Rows 20 ▾ Clear Command Find Tables Save Run

1 SELECT * FROM COURSE

Results Explain Describe Saved SQL History

COURSE_ID	TITLE	DEPT_NAME	CREDITS
BIO-101	Intro. to Biology	Biology	4
BIO-301	Genetics	Biology	4
BIO-399	Computational Biology	Biology	3
CS-101	Intro. to Computer Science	Comp. Sci.	4
CS-190	Game Design	Comp. Sci.	4
CS-315	Robotics	Comp. Sci.	3
CS-319	Image Processing	Comp. Sci.	3
CS-347	Database System Concepts	Comp. Sci.	3
EE-181	Intro. to Digital Systems	Elec. Eng.	3
FIN-201	Investment Banking	Finance	3
HIS-351	World History	History	3
MU-199	Music Video Production	Music	3
PHY-101	Physical Principles	Physics	4

13 rows returned in 0.01 seconds Download

EX2

Question 3

APEX App Builder SQL Workshop Team Development Gallery

Search

Schema WKSP_TPBDA

Language SQL Rows 20 Clear Command Find Tables Save Run

1 `SELECT TITLE, DEPT_NAME FROM COURSE`

Results Explain Describe Saved SQL History

TITLE	DEPT_NAME
Intro. to Biology	Biology
Genetics	Biology
Computational Biology	Biology
Intro. to Computer Science	Comp. Sci.
Game Design	Comp. Sci.
Robotics	Comp. Sci.
Image Processing	Comp. Sci.
Database System Concepts	Comp. Sci.
Intro. to Digital Systems	Elec. Eng.
Investment Banking	Finance
World History	History
Music Video Production	Music
Physical Principles	Physics

13 rows returned in 0.02 seconds Download

EX2

Question 4

APEX App Builder ▾ **SQL Workshop** ▾ Team Development ▾ Gallery

Search

Schema WKSP_TPBDA

Language SQL ▾ Rows 20 ▾ Clear Command Find Tables Save Run

1 **SELECT** DEPT_NAME , BUDGET **FROM** DEPARTMENT


Results Explain Describe Saved SQL History

DEPT_NAME	BUDGET
Biology	90000
Comp. Sci.	100000
Elec. Eng.	85000
Finance	120000
History	50000
Music	80000
Physics	70000

7 rows returned in 0.02 seconds [Download](#)

EX2

Question 5

 **APEX** App Builder SQL Workshop Team Development Gallery

Search

LZ Lucas Zheng tp_bda

SQL Commands

Schema WKSP_TPBDA

Language SQL Rows 20 Clear Command Find Tables Save Run

1 SELECT TP_NAME AS NOM,DEPT_NAME AS NOM_DEPARTEMENT FROM TEACHER

Results Explain Describe Saved SQL History

NAME	DEPT_NAME
Srinivasan	Comp. Sci.
Wu	Finance
Mozart	Music
Einstein	Physics
El Said	History
Gold	Physics
Katz	Comp. Sci.
Califieri	History
Singh	Finance
Crick	Biology
Brandt	Comp. Sci.
Kim	Elec. Eng.

12 rows returned in 0.00 seconds Download

EX2

Question 6

APEX App Builder SQL Workshop Team Development Gallery **LZ** Lucas Zheng tp_bda

↑ SQL Commands Schema WKSP_TPBDA

Language SQL Rows 20

```
1 SELECT TP_NAME AS NOM FROM TEACHER
2 WHERE SALARY > 65000
```

Results Explain Describe Saved SQL History

NOM
Wu
Einstein
Gold
Katz
Singh
Crick
Brandt
Kim

8 rows returned in 0.00 seconds [Download](#)

EX2

Question 7

APEX App Builder SQL Workshop Team Development Gallery Search ? LZ

↑ SQL Commands Schema WKSP_TPBD A ?

Language SQL ? Rows 20 ? Clear Command Find Tables Save Run

```
1 SELECT TP_NAME AS NOM FROM TEACHER
2 WHERE SALARY BETWEEN 55000 AND 85000
```

Results Explain Describe Saved SQL History

NOM
Srinivasan
El Said
Katz
Califieri
Singh
Crick
Kim

7 rows returned in 0.00 seconds Download

EX2

Question 8

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', 'Gallery', a search bar, and a user icon. The main area is titled 'SQL Commands' and shows the 'Schema' as 'WKSP_TPBD'. The 'Language' is set to 'SQL' and 'Rows' is set to '20'. The SQL command is: `SELECT DISTINCT DEPT_NAME AS NOM_DEPARTEMENT FROM TEACHER`. Below the command, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is active, displaying a table with the header 'NOM_DEPARTEMENT' and seven rows of department names. At the bottom, it states '7 rows returned in 0.01 seconds' and provides a 'Download' link.

SQL Commands

Schema: WKSP_TPBD

Language: SQL Rows: 20

Clear Command Find Tables Save Run

1 `SELECT DISTINCT DEPT_NAME AS NOM_DEPARTEMENT FROM TEACHER`

Results Explain Describe Saved SQL History

NOM_DEPARTEMENT
Comp. Sci.
Biology
History
Finance
Elec. Eng.
Music
Physics

7 rows returned in 0.01 seconds Download

EX2

Question 9

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', 'Gallery', a search bar, a user icon, a help icon, and a 'LZ' button. Below this, the 'SQL Commands' section shows the 'Schema' set to 'WKSP_TPBDA'. The 'Language' is set to 'SQL' and 'Rows' is set to '20'. There are buttons for 'Clear Command', 'Find Tables', 'Save', and 'Run'. The SQL command area contains the following query:

```
1 SELECT TP_NAME AS NOM FROM TEACHER
2 WHERE SALARY > 65000 AND DEPT_NAME = 'Comp. Sci.'
```

Below the command area, the 'Results' tab is selected, showing the query results. The results are displayed in a table with the following structure:

NOM
Katz
Brandt

At the bottom, it states '2 rows returned in 0.01 seconds' and provides a 'Download' link.

EX2

Question 10

APEX App Builder SQL Workshop Team Development Gallery Search ? LZ

↑ SQL Commands Schema WKSP_TPBDA ?

Language SQL ? Rows 20 ? Clear Command Find Tables Save Run

1 SELECT * FROM SECTION
2 WHERE SEMESTER = 'Spring' AND TP_YEAR = 2010

Results Explain Describe Saved SQL History

COURSE_ID	SEC_ID	SEMESTER	TP_YEAR	BUILDING	ROOM_NUMBER	TIME_SLOT_ID
CS-101	1	Spring	2010	Packard	101	F
CS-315	1	Spring	2010	Watson	120	D
CS-319	1	Spring	2010	Watson	100	B
CS-319	2	Spring	2010	Taylor	3128	C
FIN-201	1	Spring	2010	Packard	101	B
HIS-351	1	Spring	2010	Painter	514	C
MU-199	1	Spring	2010	Packard	101	D

7 rows returned in 0.02 seconds Download

EX2

Question 11

The screenshot shows the APEX SQL Workshop interface. At the top, there's a navigation bar with 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and a user icon are also present. Below this, the 'SQL Commands' section is active, showing the schema 'WKSP_TPBDA'. The language is set to 'SQL', and the number of rows to display is '20'. The SQL command being executed is:

```
1 SELECT TITLE FROM COURSE
2 WHERE DEPT_NAME = 'Comp. Sci.' AND CREDITS >=3
```

Below the command, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is selected, showing a table with one column, 'TITLE'. The table contains five rows of data:

TITLE
Intro. to Computer Science
Game Design
Robotics
Image Processing
Database System Concepts

At the bottom, it states '5 rows returned in 0.00 seconds' and provides a 'Download' link.

EX2

Question 12

APEX App Builder SQL Workshop Team Development Gallery Search LZ

SQL Commands Schema WKSP_TPBDA

Language SQL Rows 20 Clear Command Find Tables Save Run

```
1 SELECT TP_NAME AS NOM_ENSEIGNANT, TEACHER.DEPT_NAME AS NOM_DEPARTEMENT, BUILDING AS BATIMENT_HEBERGEUR
2 FROM TEACHER, DEPARTMENT
3 WHERE
4 (
5     /*La jointure via DEPT_NAME*/
6     TEACHER.DEPT_NAME = DEPARTMENT.DEPT_NAME
7 )
```

Results Explain Describe Saved SQL History

NOM_ENSEIGNANT	NOM_DEPARTEMENT	BATIMENT_HEBERGEUR
Srinivasan	Comp. Sci.	Taylor
Wu	Finance	Painter
Mozart	Music	Packard
Einstein	Physics	Watson
El Said	History	Painter
Gold	Physics	Watson
Katz	Comp. Sci.	Taylor
Califieri	History	Painter
Singh	Finance	Painter
Crick	Biology	Watson
Brandt	Comp. Sci.	Taylor
Kim	Elec. Eng.	Taylor

12 rows returned in 0.01 seconds Download

EX2 Question 13

APEXApp BuilderSQL WorkshopTeam DevelopmentGallery

Search

LZLucas Zhengtp_bda

↑ SQL Commands

SchemaWKSP_TPBDA

LanguageSQLRows20Clear CommandFind TablesSaveRun

↶↷🔍🛠️A-Z⚙️

1SELECT DISTINCT STUDENT.*
2FROM STUDENT, TAKES, SECTION, COURSE
3WHERE
4(
5TAKES.TP_ID = STUDENT.TP_ID AND SECTION.SEC_ID = TAKES.SEC_ID AND SECTION.COURSE_ID = COURSE.COURSE_ID AND
6COURSE.DEPT_NAME = 'Comp. Sci.'
7)

ResultsExplainDescribeSaved SQLHistory

TP_ID	TP_NAME	DEPT_NAME	TOT_CRED
44553	Peltier	Physics	56
45678	Levy	Physics	46
76543	Brown	Comp. Sci.	58
98988	Tanaka	Biology	120
12345	Shankar	Comp. Sci.	32
55739	Sanchez	Music	38
19991	Brandt	History	80
54321	Williams	Comp. Sci.	54
98765	Bourikas	Elec. Eng.	98
23121	Chavez	Finance	110
00128	Zhang	Comp. Sci.	102
76653	Aoi	Elec. Eng.	60

12 rows returned in 0.04 secondsDownload

EX2

Question 14

```
1 SELECT DISTINCT STUDENT.TP_NAME
2 FROM STUDENT, TAKES, SECTION, TEACHES, TEACHER
3 WHERE
4 (
5     /*JOINTURE DE STUDENT à TEACHER en passant par TAKES, SECTION ET TEACHES*/
6     STUDENT.TP_ID = TAKES.TP_ID AND TAKES.SEC_ID = SECTION.SEC_ID AND
7     SECTION.SEC_ID = TEACHES.SEC_ID AND TEACHES.TP_ID = TEACHER.TP_ID AND
8     TEACHER.TP_NAME = 'Einstein'
9 )
```

Results

[Explain](#)[Describe](#)[Saved SQL](#)[History](#)

TP_NAME

Brandt

Sanchez

Brown

Aoi

Zhang

Levy

Bourikas

Shankar

Chavez

Peltier

Tanaka

Williams

12 rows returned in 0.04 seconds

[Download](#)

EX2

Question 15

```
1 SELECT tp_name , course_id
2 FROM teacher , teaches
3 WHERE teacher.tp_id = teaches.tp_id ;
```

Results

[Explain](#)[Describe](#)[Saved SQL](#)[History](#)

TP_NAME

COURSE_ID

Srinivasan

CS-101

Srinivasan

CS-315

Srinivasan

CS-347

Wu

FIN-201

Mozart

MU-199

Einstein

PHY-101

El Said

HIS-351

Katz

CS-101

Katz

CS-319

Crick

BIO-101

Crick

BIO-301

Brandt

CS-190

Brandt

CS-190

Brandt

CS-319

Kim

EE-181

15 rows returned in 0.03 seconds

[Download](#)

EX2 Question 16

```
1 SELECT takes.course_id , takes.sec_id , takes.semester , takes.tp_year , count (*)
2 FROM takes
3 WHERE takes.semester = 'Spring' and takes.tp_year = 2010
4 GROUP BY takes.course_id , takes.sec_id , takes.semester , takes.tp_year ;
```

Results

[Explain](#)

[Describe](#)

[Saved SQL](#)

[History](#)

COURSE_ID	SEC_ID	SEMESTER	TP_YEAR	COUNT(*)
CS-315	1	Spring	2010	2
CS-101	1	Spring	2010	1
CS-319	2	Spring	2010	1
CS-319	1	Spring	2010	1
FIN-201	1	Spring	2010	1
HIS-351	1	Spring	2010	1
MU-199	1	Spring	2010	1

7 rows returned in 0.06 seconds

[Download](#)

EX2 Question 17

```
1 SELECT dept_name , max ( salary ) FROM teacher
2 GROUP BY dept_name ;
```

Results

Explain

Describe

Saved SQL

History

DEPT_NAME	MAX(SALARY)
Comp. Sci.	92000
Biology	72000
History	62000
Finance	90000
Elec. Eng.	80000
Music	40000
Physics	95000

7 rows returned in 0.02 seconds

[Download](#)

EX2 Question 17

```
1 SELECT takes.course_id , takes.sec_id , takes.semester , takes.tp_year , count (*)
2 FROM takes
3 GROUP BY takes . course_id , takes . sec_id , takes . semester , takes .tp_year ;
```

Results

[Explain](#)

[Describe](#)

[Saved SQL](#)

[History](#)

COURSE_ID	SEC_ID	SEMESTER	TP_YEAR	COUNT(*)
CS-190	2	Spring	2009	2
CS-319	1	Spring	2010	1
CS-347	1	Fall	2009	2
MU-199	1	Spring	2010	1
CS-101	1	Fall	2009	6
CS-101	1	Spring	2010	1
FIN-201	1	Spring	2010	1
BIO-101	1	Summer	2009	1
CS-315	1	Spring	2010	2
HIS-351	1	Spring	2010	1
PHY-101	1	Fall	2009	1
EE-181	1	Spring	2009	1
BIO-301	1	Summer	2010	1
CS-319	2	Spring	2010	1

14 rows returned in 0.01 seconds

[Download](#)

EX2 Question 18

```
1 SELECT takes.course_id , takes.sec_id , takes.semester , takes.tp_year , count (*)
2 FROM takes
3 GROUP BY takes.course_id , takes.sec_id , takes.semester , takes.tp_year ;
4
```

Results Explain Describe Saved SQL History

COURSE_ID	SEC_ID	SEMESTER	TP_YEAR	COUNT(*)
CS-190	2	Spring	2009	2
CS-319	1	Spring	2010	1
CS-347	1	Fall	2009	2
MU-199	1	Spring	2010	1
CS-101	1	Fall	2009	6
CS-101	1	Spring	2010	1
FIN-201	1	Spring	2010	1
BIO-101	1	Summer	2009	1
CS-315	1	Spring	2010	2
HIS-351	1	Spring	2010	1
PHY-101	1	Fall	2009	1
EE-181	1	Spring	2009	1
BIO-301	1	Summer	2010	1
CS-319	2	Spring	2010	1

14 rows returned in 0.03 seconds [Download](#)

EX2 Question 19

```
1 SELECT building , count (*)
2 FROM section
3 WHERE ( semester , tp_year ) IN ( ( 'Fall' , 2009 ) , ( 'Spring' , 2010 ) ) GROUP BY building ;
```

Results

Explain

Describe

Saved SQL

History

BUILDING	COUNT(*)
Watson	3
Packard	4
Taylor	2
Painter	1

4 rows returned in 0.03 seconds

[Download](#)

```
1 SELECT department.dept_name , count (*)
2 FROM section , department , teacher , teaches
3 WHERE section.course_id = teaches.course_id
4     AND section.sec_id   = teaches.sec_id
5     AND section.semester = teaches.semester
6     AND section.tp_year  = teaches.tp_year
7     AND teaches.tp_id    = teacher.tp_id
8     AND teacher.dept_name = department.dept_name
9     AND department.building = section.building
10 GROUP BY department.dept_name ;
```

Results

Explain

Describe

Saved SQL

History

DEPT_NAME	COUNT(*)
Comp. Sci.	4
History	1
Elec. Eng.	1
Music	1
Physics	1

5 rows returned in 0.13 seconds

[Download](#)

EX2

Question 21

```
1 SELECT course.title , teacher.tp_name
2 FROM section , teacher , teaches , course
3 WHERE section.course_id = teaches.course_id
4       AND section.sec_id = teaches.sec_id
5       AND section.semester = teaches.semester
6       AND section.tp_year = teaches.tp_year
7       AND teaches.tp_id = teacher.tp_id
8       AND section.course_id = course.course_id
9 ORDER BY course.title ;
```

Results

[Explain](#)[Describe](#)[Saved SQL](#)[History](#)

TITLE	TP_NAME
Database System Concepts	Srinivasan
Game Design	Brandt
Game Design	Brandt
Genetics	Crick
Image Processing	Katz
Image Processing	Brandt
Intro. to Biology	Crick
Intro. to Computer Science	Srinivasan
Intro. to Computer Science	Katz
Intro. to Digital Systems	Kim
Investment Banking	Wu
Music Video Production	Mozart
Physical Principles	Einstein
Robotics	Srinivasan
World History	El Said

15 rows returned in 0.06 seconds

[Download](#)

```
1 SELECT section.semester , count (*)
2 FROM section
3 GROUP BY section.semester
```

Results

Explain

Describe

Saved SQL

History

SEMESTER	COUNT(*)
Fall	3
Summer	2
Spring	10

3 rows returned in 0.01 seconds

[Download](#)

```
1 SELECT student.tp_name , sum ( credits )
2 FROM student , course , takes
3 WHERE student.tp_id = takes.tp_id
4     AND takes.course_id = course.course_id
5     AND student.dept_name != course.dept_name
6 GROUP BY student.tp_name ;
```

Results[Explain](#)[Describe](#)[Saved SQL](#)[History](#)**TP_NAME****SUM(CREDITS)**

Levy

11

Bourikas

7

2 rows returned in 0.09 seconds

[Download](#)

EX2 Question 24

```
1 SELECT section.building , sum( course.credits )
2 FROM section , course
3 WHERE section.course_id = course.course_id
4 GROUP BY section.building ;
```

Results

Explain

Describe

Saved SQL

History

BUILDING	SUM(COURSE.CREDITS)
Watson	10
Packard	14
Taylor	17
Painter	11

4 rows returned in 0.04 seconds

[Download](#)

FIN