Ex1:

Output for department table where k=6

dept_name	building	budget
Civil Eng.	Chandler	255041.46
Biology	Candlestick	647610.55
History	Taylor	699140.86
Physics	Wrigley	942162.76
Marketing	Lambeau	210627.58
Pol. Sci.	Whitman	573745.09

Output for section table where k=8

course_id	sec_id	semester	year	building	room_number	time_slot_id
313	1	Fall	2010	Chandler	804	N
747	1	Spring	2004	Gates	314	K
443	1	Spring	2010	Whitman	434	O
893	1	Fall	2007	Fairchild	145	B
663	1	Spring	2005	Fairchild	145	D
457	1	Spring	2001	Saucon	844	D
445	1	Spring	2001	Alumni	547	J
559	1	Fall	2002	Lamberton	134	J

Output for takes table where k=7

id	course_id	sec_id	semester	year	grade
65901	401	1	Fall	2003	C-
24932	802	1	Spring	2003	B-
61332	200	1	Spring	2007	A-
73492	760	1	Spring	2004	A
65715	843	1	Fall	2010	B+
58300	408	1	Spring	2007	B-
760	571	1	Spring	2004	B

Ex2:

Output for course Id 276
```
course_id,  title
403,  Immunology
345,  Race Car Driving
352,  Compiler Design
```

Output for course id 647
```
course_id,  title
792,  Image Processing
814,  Compiler Design
```

Output for course id 496
```
course_id,  title
489,  Journalism
416,  Data Mining
443,  Journalism
852,  World History
133,  Antidisestablishmentarianism in Modern America
267,  Hydraulics
```

Ex3:

1) Query: Update section set time_slot_id='J' where course_id='629' and year=2003 and semester='Spring'

Reason: This will fail because the instructor teaching this courses also teach another course (with course id '802') in the same semester in this slot.

2) Query: Update teaches set id='74420' where course_id='960' and sec_id='2'

Reason: This will fail cause this teacher already teaches another course in the same slot as this one and hence the teacher is forced to teach two courses in the same slot in the same semester.

3) Query: Update section set time_slot_id='P' where course_id='496' and year=2001 and semester='Fall'

Reason: This will run as the instructor for this course does not teach another course in the same semester so it won't matter which slot he is teaching in.

4) Query: Insert into teaches values('99052', '949', '1', 'Fall',2007)

Reason: This will fail as this course has the same slot as the other course taught by this by teacher in the same semester.By executing this we basically are assigning this course to that teacher but he cannot take it cause he is already teaching in the same slot.

5) Query: Insert into teaches values("65931","663","1","Spring",2005)

Reason: This will run even though the instructor is teaching another course in the same semester this course and the other course have different slots.

Ex4:
Output for Roll no. 76672
```
5.081081
```

Output for Roll no. 90567
```
5.84127
```

Output for Roll no. 4582
```
5.361111
```

Output for Roll no. 81258
```
6.4761906
```

Ex5:
A) Top 5 students according to CGPA

id	name	cgpa	rank
19362	Linden	8.268292	1
81207	Masri	8.2	2
78637	Beeu	8.171429	3
98619	Nagaraj	8.033334	4
18286	Pang	8.0	5

B)
Top 5 students in Psychology department according to CGPA

id	name	cgpa	rank
17676	Michel	7.5641026	1
40116	Joshi	7.5	2
32886	Damas	7.428571	3
26494	Heers	7.368421	4
51093	Syng	7.15	5

Top 5 students in Elec. Eng. department according to CGPA

id	name	cgpa	rank
29140	Reuver	7.7647057	1
64401	Larion	7.627907	2
52057	Garg	7.490909	3
59517	Harrison	7.382353	4
38712	Kreutz	6.8644066	5

Top 5 students in Civil Eng. department according to CGPA

id	name	cgpa	rank
98619	Nagaraj	8.033334	1
13753	Hoshi	7.7352943	2
40677	Ponnambalam	7.707317	3
99660	OMalley	7.6415095	4
32419	Sahani	7.4615383	5

C)

Top 5 students who have taken the course 237 according to CGPA

id	name	cgpa	rank
78637	Beeu	8.171429	1
66469	Komori	7.943396	2
64196	Rioult	7.9411764	3
77898	Yap	7.911111	4
99289	Morales	7.894737	5

Top 5 students who have taken the course 349 according to CGPA

id	name	cgpa	rank
23506	Åström	7.6585364	1
40116	Joshi	7.5	2
16311	Liao	7.4883723	3
70021	Aydin	7.428571	4
14094	Miao	7.4	5

Top 5 students who have taken the course 735 according to CGPA

id	name	cgpa	rank
18286	Pang	8.0	1
77898	Yap	7.911111	2
52707	Arena	7.8421054	3
11441	Betho	7.8235292	4
39901	Dellwo	7.5588236	5