### CS3563 DBMS-II ASSIGNMENT 1

1)

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	
English	Palmer	611042.66	
Accounting	Saucon	441840.92	
Comp. Sci.	Lamberton	106378.69	
Languages	Linderman	601283.60	
Finance	Candlestick	866831.75	
Geology	Palmer	406557.93	
Cybernetics	Mercer	794541.46	
Astronomy	Taylor	617253.94	
Athletics	Bronfman	i 734550 . 70	

Fig1a. Department table

(base) pranav@XPS:~/Desktop/DBMS_2/Assigl/Assign1\$ /usr/bin/env /usr/lib/jvm/jdk-19/bin/java @/tmp/cp_2giwbslt3ske2yy/bwedwojdk.argfile exl Enter table name and value k section 15								
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	įκ		
443	į1	Spring	2010	Whitman	434	jo		
893  663  457	j1	Fall	2007	Fairchild	145	įΒ		
663	j1	Spring	2005	Fairchild	145	j D		
457	j1	Spring	2001	Saucon	844	j D		
445	j1	Spring	2001	Alumni	547	jз		
559	j1	Fall	2002	Lamberton	134	jэ		
239	j1	Fall	2006	Taylor	183	jc ic		
802  158	j1	Spring	2003	Saucon	113	jэ		
158	j1	Fall	2008	Whitman	j434			
735	1	Spring	2003	Drown	757	į D		
237	1	Spring	2008	Power	717	į D		
338	1	Spring	2007	Fairchild	145	İG		
376	İ1	Fall	2006	Power	İ717	İĸ		
	  Desktop/DBMS 2/Assig1/Assign1		2006	Power	/1/	ļĸ .		

Fig1b. Section table.

Enter table name and value k takes 15	/USI / USI / USI / USI / USI	cii/CiiV / USI / CID/ J VIII/ J	uk-13/UIII/ Java @/ LIIIP/CP_291WJSCCJSKC	zyy/bwedwojak.argiile exi	
id	course_id	sec_id	semester	year	grade
65901	401	1	Fall	2003	C-
24932	802	j1	Spring	į 2003	jB-
61332	200	j1	Spring	2007	jA- j
73492	760	j1	Spring	2004	ja j
65715	843	j1	Fall	2010	B+
58300	408	j1	Spring	2007	jB-
j 760	571	j1	Spring	2004	jB j
69730	313	j1	Fall	2010	ja j
j94836	626	j1	Fall	2006	iC+
49391	603	j1	Fall	2003	jB-
İ48850	457	j1	Spring	2001	jc- j
68999	169	j1	Spring	2007	iA+
53469	169	1	Spring	j 2007	ic
74016	747	j1	Spring	2004	jA- j
į 49073	496	1	Fall	j2001	ic- i
(base) pranav@XPS:~/Desktop/[	DBMS 2/Assig1/Assign1\$				

Fig1c. Takes table.

```
(base) pranav@XPS:~/Desktop/DBMS_2/Assigl/A
Enter the course ID:
276
  course_ID = 403, Title = Immunology
  course_ID = 345, Title = Race Car Driving
  course_ID = 352, Title = Compiler Design
```

Fig2a.Prerequisites for course\_id = 276.

```
Enter the course ID:
647
course_ID = 792, Title = Image Processing
course_ID = 814, Title = Compiler Design
```

Fig2a.Prerequisites for course\_id = 647.

```
Enter the course ID:
496
course_ID = 489, Title = Journalism

course_ID = 416, Title = Data Mining

course_ID = 443, Title = Journalism

course_ID = 852, Title = World History

course_ID = 133, Title = Antidisestablishmentarianism in Modern America

course_ID = 267, Title = Hydraulics
```

Fig2a.Prerequisites for course\_id = 276.

### 3) Trigger on TEACHES TABLE:

#### **INSERT:**

Incorrect Input:

insert into teaches(id,course\_id,sec\_id,semester,year)
values('99052','408','2','Spring',2003);

-> the course '408' with sec\_id '2' in Spring semester 2003 belong to slot J, but the instructor '99052' already have a course '802' in year 2003 semester Spring.

Thus, Trigger do not allow user to add the above Query.

• Correct Input:

insert into teaches(id,course\_id,sec\_id,semester,year)
values('99052','137','1','Spring',2002);

-> instructor have no courses in year 2002 and Spring semester, Thus trigger allow user to add above Query

#### **UPDATE**:

Incorrect Input:

update temp\_teaches SET id = '6569', course\_id = '349', sec\_id = '3',semester = 'Spring',year = '2008'
WHERE id = '6569'and course\_id = '362'and sec\_id = '3' and semester = 'Spring';

- -> instructor '6569' already teaches course '349' in same year and semester thus when tried to replace course '362', trigger donot allow user to update.
- Correct Input:

update temp\_teaches SET id = '77346', course\_id = '443', sec\_id = '1',semester = 'Spring',year = '2010' WHERE id = '77346'and course\_id = '493'and sec\_id = '1' and semester = 'Spring'; -> instructor '77346' teaches 2 courses in year 2010 and semester Spring, but in slots H and D, the input course '443' is in slot O, as there's no clash, thus trigger allows user to add above Query.

Trigger on SECTION TABLE:

#### **UPDATE**:

Incorrect Input:

update section set time\_slot\_id ='M' where course\_id = '338' and sec\_id = '1' and semester = 'Spring' and year = 2007; -> in Spring and year 2007, course '400' also is in same slot 'M' taught by instructor = '22591'. Thus trigger donot allow user to Query above input.

Correct Input:

update section set time\_slot\_id ='J' where course\_id = '338' and sec\_id = '1' and semester = 'Spring' and year = 2007;

-> there's no ther course in year 2007 and Spring semester with slot 'J' thus, course '338' can be shifted from slot 'G' to 'J'.

```
Enter Roll number to get CGPA :
76672
CGPA of 76672 = 5.081081
(base) pranav@XPS:~/Desktop/DBMS 2/#
Enter Roll number to get CGPA:
90567
CGPA of 90567 = 5.84127
(base) pranav@XPS:~/Desktop/DBMS 2/#
Enter Roll number to get CGPA :
4582
CGPA of 4582 = 5.361111
(base) pranav@XPS:~/Desktop/DBMS 2/#
Enter Roll number to get CGPA :
81258
CGPA 	ext{ of } 81258 = 6.4761906
         Fig4. CGPAs for Roll Nums:
```

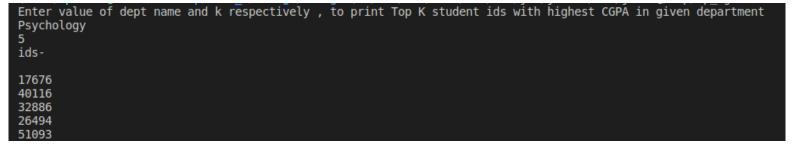
```
Fig4. CGPAs for Roll Nums:
i)7762.
ii)90657.
iii)4582.
iv)81258.
```

5)

```
Enter value of k, to print Top K student ids with highest CGPA 5

ids-
19362
81207
78637
98619
18286
```

Fig5a. Top 5 ids with Highest CGPA



# Fig5b\_a. Top 5 ids with Highest CGPA in 'Psychology' dept.

```
Enter value of dept name and k respectively , to print Top K student ids with highest CGPA in given department Elec. Eng.
5
ids-
29140
64401
52057
59517
38712
```

## Fig5b\_b. Top 5 ids with Highest CGPA in 'Elec. Eng. ' dept.

```
Enter value of dept name and k respectively , to print Top K student ids with highest CGPA in given department Civil Eng.
5
ids-
98619
13753
40677
99660
32419
```

Fig5b\_c. Top 5 ids with Highest CGPA in 'Civil Eng.' dept.

```
Enter value of k and dept name, to print Top K student ids with highest CGPA in given department 5 237 ids-
78637 66469 64196 77898 99289
```

### Fig5c\_a. Top 5 ids with Highest CGPA with course\_id '237'.

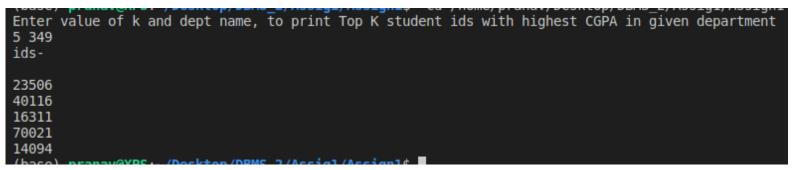


Fig5c\_b. Top 5 ids with Highest CGPA with course\_id '349.

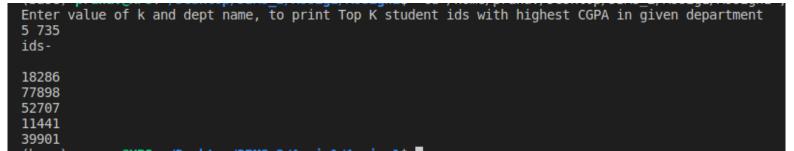


Fig5c\_a. Top 5 ids with Highest CGPA with course\_id '735'.