PROGRAM 4. STUDENT FACULTY DATABASE

Consider the following database for student enrolment for course:

STUDENT (snum: integer, sname: string, major: string, level: string, age: integer)

CLASS (name: string, meets at: time, room: string, fid: integer)

ENROLLED (snum: integer, cname: string)

FACULTY (fid: integer, fname: string, deptid: integer)

The meaning of these relations is straightforward; for example, Enrolled has one record per student-class pair such that the student is enrolled in the class. Level is a two character code with 4 different values (example:

Junior: JR etc) Write the following queries in SQL. No duplicates should be printed in any of the answers.

```
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0000 seconds.)
 use student faculty
[ Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.2910 seconds.)
 create table student(snum int , sname varchar(20) , major varchar(10) , lvl varchar(2) , age int , primary key(snum))
[ Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.3370 seconds.)
 create table faculty(fid int , fname varchar(20) , deptid int , primary key(fid))
[ Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.1960 seconds.)
 create table class(cname varchar(10) , meets_at timestamp , room varchar(10) , fid int , primary key(cname) , foreign key(fid) references
 faculty(fid))
[ Edit inline ] [ Edit ] [ Create PHP code ]
 MySQL returned an empty result set (i.e. zero rows). (Query took 0.2360 seconds.)
 create table enrolled(snum int , cname varchar(10) , foreign key(snum) references student(snum) , foreign key(cname) references
 class(cname))
[ Edit inline ] [ Edit ] [ Create PHP code ]
```

	Table 🔺	Action							Rows	0	Туре	Collation	Size	Overhead
	class		Browse	M Structure	R Search	3-i Insert	Empty	Drop		0	InnoDB	utf8mb4_general_ci	32.0 KiB	Þ
0	enrolled		Browse	Structure	· Search	3 insert	Empty	Drop		0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
	faculty	*	Browse	M Structure	Rearch	≩≟ Insert	Empty	Drop		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
	student		Browse	M Structure	· Search	3-i Insert	Empty	Drop		0	InnoDB	utf8mb4_general_ci	16.0 KiB	=
	4 tables	Sum								0	InnoDB	utf8mb4_general_ci	112.0 KiB	Ø B

```
√ 1 row inserted. (Query took 0.0310 seconds.)

 insert into student values(1, 'Ross', 'CS', 'Sr', 19)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.1110 seconds.)

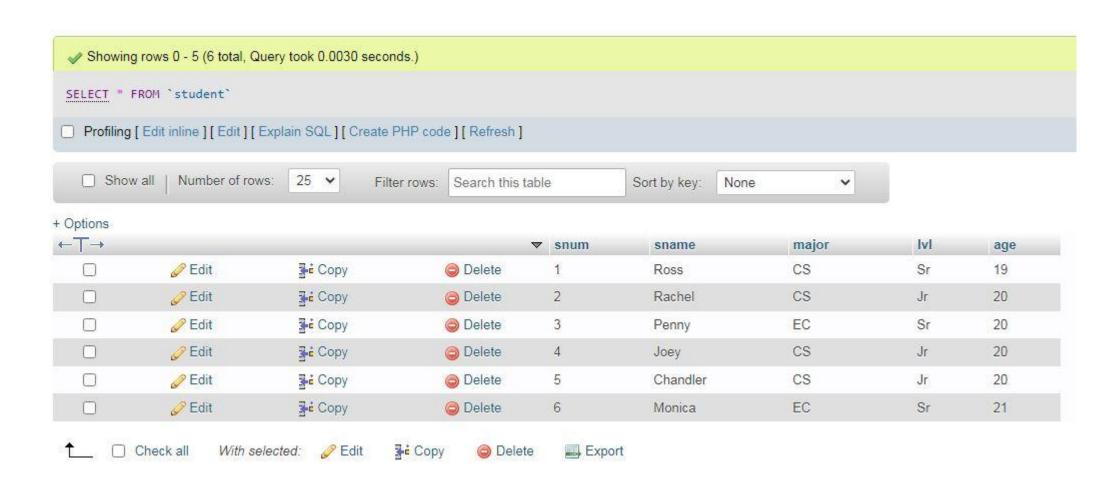
 insert into student values(2, 'Rachel', 'CS', 'Jr', 20)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0300 seconds.)

 insert into student values(3 , 'Penny', 'EC', 'Sr', 20)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0480 seconds.)
 insert into student values(4, 'Joey', 'CS', 'Jr', 20)
[Edit inline] [Edit] [Create PHP code]

√ 1 row inserted. (Query took 0.0460 seconds.)

 insert into student values(5, 'Chandler', 'CS', 'Jr', 20)
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0460 seconds.)
 insert into student values(6, 'Monica', 'EC', 'Sr', 21)
[ Edit inline ] [ Edit ] [ Create PHP code ]
```



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√ 1 row inserted. (Query took 0.0810 seconds.)

 insert into faculty values(101, 'Abhimanyu', 1000)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.1150 seconds.)

 insert into faculty values(102, 'Shivam', 1000)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0210 seconds.)

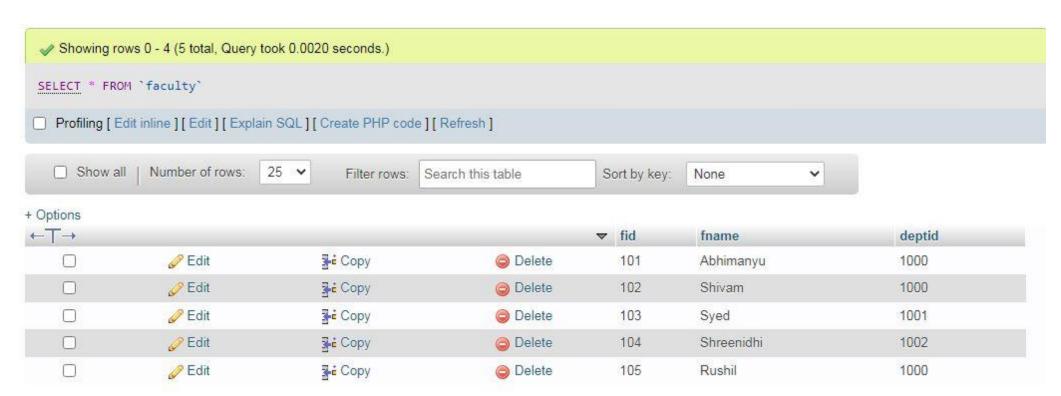
 insert into faculty values(103 , 'Syed', 1001)
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0350 seconds.)

 insert into faculty values(104, 'Shreenidhi', 1002)
[ Edit inline ] [ Edit ] [ Create PHP code ]

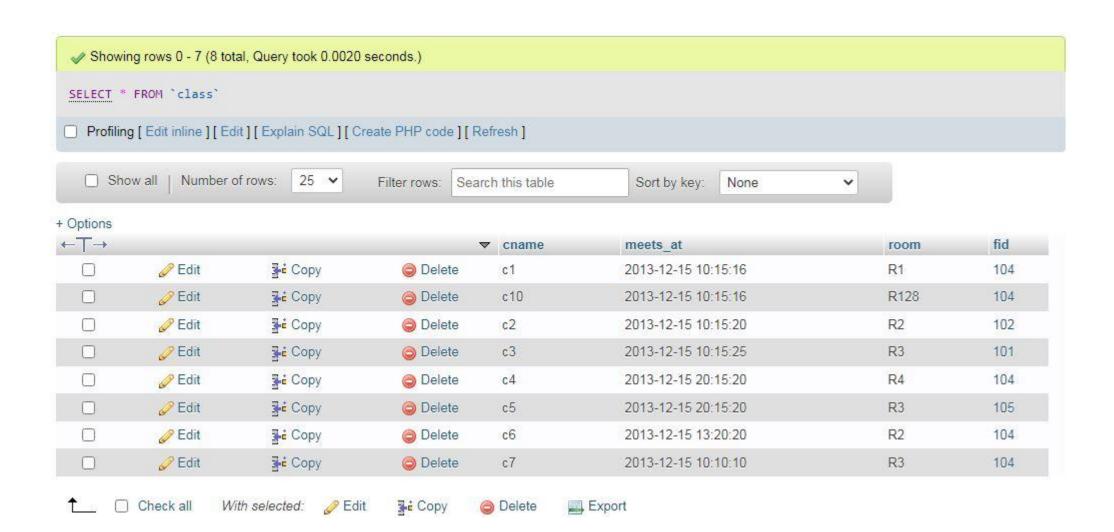
√ 1 row inserted. (Query took 0.0400 seconds.)

 insert into faculty values(105, 'Rushil', 1000)
[ Edit inline ] [ Edit ] [ Create PHP code ]
```



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1 row inserted. (Query took 0.0480 seconds.)
 insert into class values('c1', '13/12/15 10:15:16', 'R1', 104)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.1050 seconds.)
 insert into class values('c10', '13/12/15 10:15:16', 'R128', 104)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0220 seconds.)
 insert into class values('c2', '13/12/15 10:15:20', 'R2', 102)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0280 seconds.)
 insert into class values('c3', '13/12/15 10:15:25', 'R3', 101)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0270 seconds.)
 insert into class values('c4', '13/12/15 20:15:20', 'R4', 104)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0230 seconds.)
 insert into class values('c5', '13/12/15 20:15:20', 'R3', 105)
[ Edit iniine ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0310 seconds.)
 insert into class values('c6', '13/12/15 13:20:20', 'R2', 104)
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0290 seconds.)
 insert into class values('c7', '13/12/15 10:10:10', 'R3', 104)
[ Edit inline ] [ Edit ] [ Create PHP code ]
```



```
✓ 1 row inserted. (Query took 0.0720 seconds.)
 insert into enrolled values(5, 'c4')
[ Edit inline ] [ Edit ] [ Create PHP code ]
 1 row inserted. (Query took 0.0750 seconds.)
 insert into enrolled values(2, 'c1')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0210 seconds.)
 insert into enrolled values(3, 'c3')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0340 seconds.)

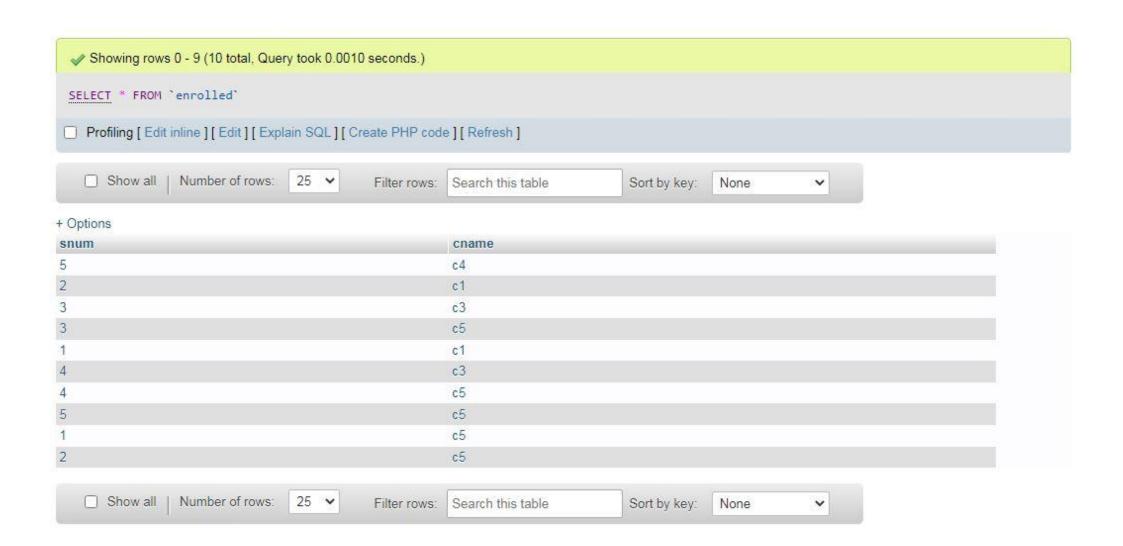
 insert into enrolled values(3, 'c5')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0350 seconds.)

 insert into enrolled values(1, 'c1')
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0270 seconds.)

 insert into enrolled values (4, 'c3')
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0290 seconds.)
 insert into enrolled values(4, 'c5')
[ Edit inline ] [ Edit ] [ Create PHP code ]
```



i. Find the names of all Juniors (level = JR) who are enrolled in a class taught by



ii. Find the names of all classes that either meet in room R128 or have five or more Students enrolled.



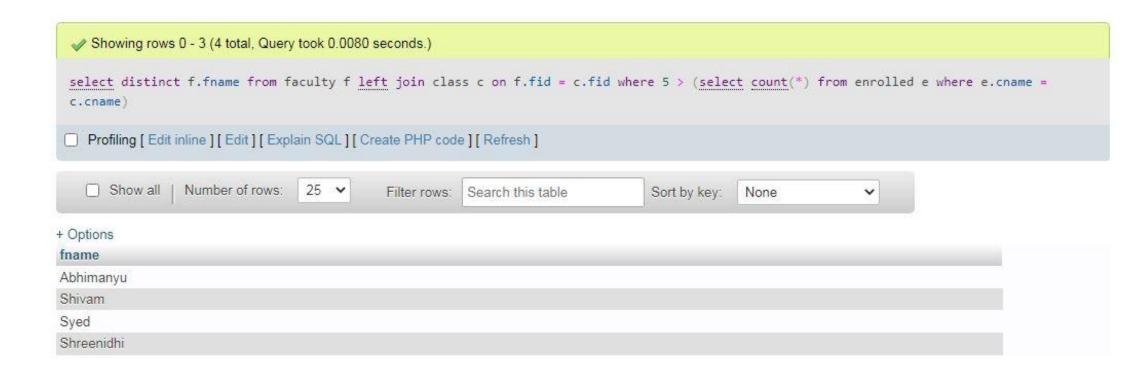
iii. Find the names of all students who are enrolled in two classes that meet at the same time.



iv. Find the names of faculty members who teach in every room in which some class is taught.



v. Find the names of faculty members for whom the combined enrolment of the courses that they teach is less than five.



vi. Find the names of students who are not enrolled in any class.



vii. For each age value that appears in Students, find the level value that appears most often. For example, if there are more FR level students aged 18 than SR, JR, or SO students aged 18, you should print the pair (18, FR).

