

Mississippi State University

Group Project Part 3

Web-based Course Waiting List Maintainer: Designing/Using Database

Prepared by Group 8

CSE 4503/6503 Database Management Systems

Dr. Leann Markham

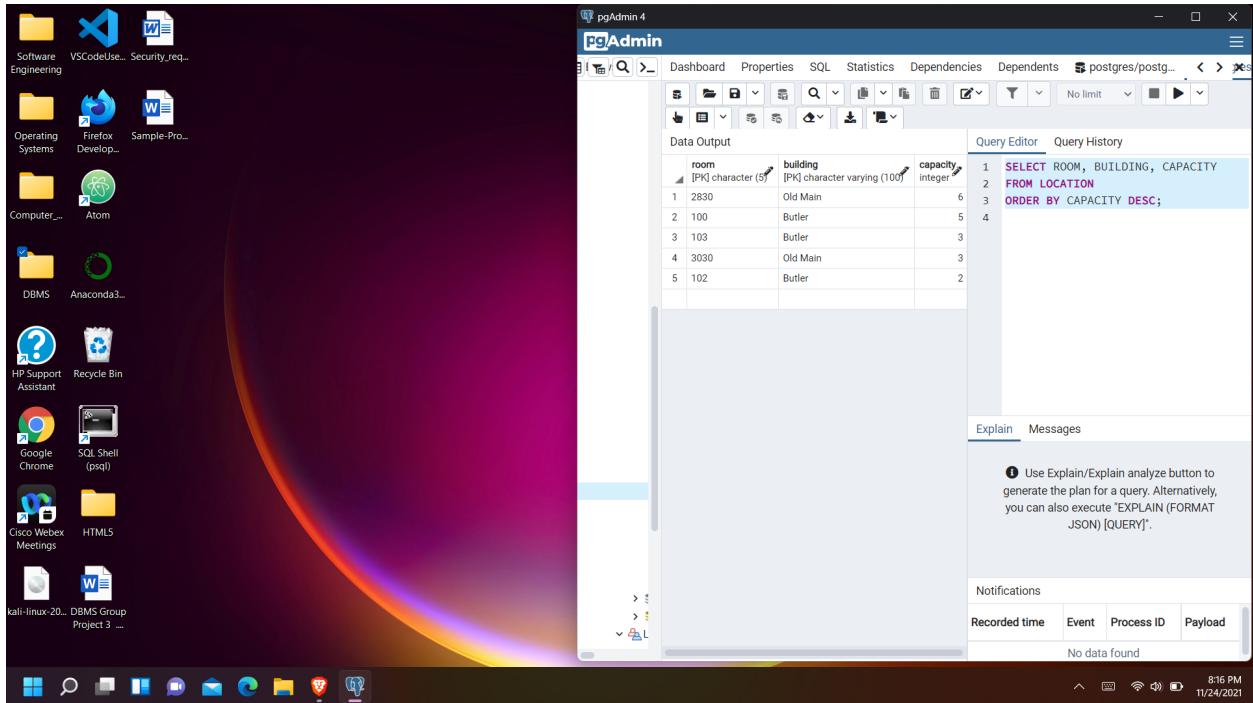
Due Date: 11/ 30/ 2021

1. What classrooms are available across all of the campus? The result should be sorted in decreasing order of room size. List the building name, room number, and capacity of each room.

```
SELECT ROOM, BUILDING, CAPACITY
```

```
FROM LOCATION
```

```
ORDER BY CAPACITY DESC;
```



2. Which courses are required for both Computer Science curriculums? Use intersect in your query. List the symbol and number for each of the courses in the results.

```
SELECT symbol, number
```

```
FROM course, curriculum
```

```
WHERE major = 'Computer Science' AND year = '2014'
```

INTERSECT

SELECT symbol, number

FROM course, curriculum

WHERE major = 'Computer Science' AND year = '2017'

The screenshot shows the pgAdmin 4 interface with a query editor and a data output window.

Query Editor:

```
1 SELECT symbol, number
2 FROM course, curriculum
3 WHERE major = 'Computer Science' AND year = '2014'
4 INTERSECT
5 SELECT symbol, number
6 FROM course, curriculum
7 WHERE major = 'Computer Science' AND year = '2017'
```

Data Output:

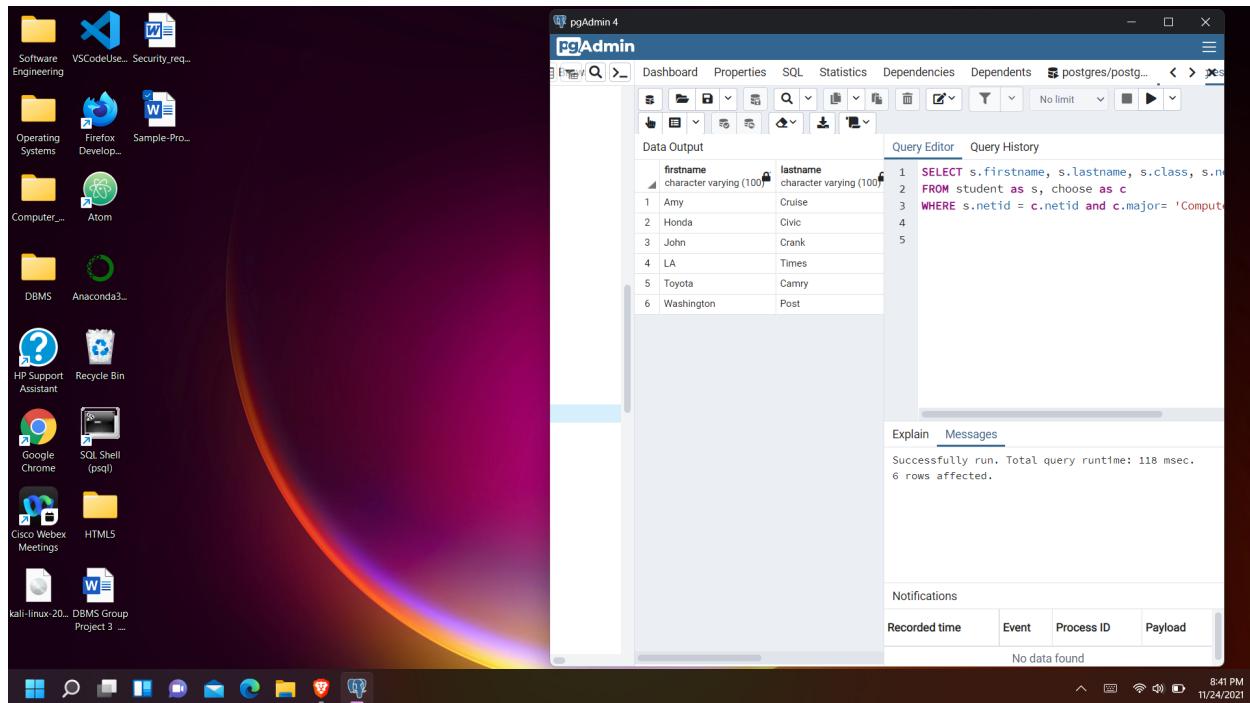
	symbol	number
1	CSE	1384
2	CSE	4503
3	CSE	4214
4	ECE	4713
5	CSE	4713
6	CSE	3324

3. Which students are majoring in Computer Science? For each student in the results, list their name, netid, and classification.

```
SELECT s.firstname, s.lastname, s.class, s.netid, c.netid
```

```
FROM student as s, choose as c
```

```
WHERE s.netid = c.netid and c.major= 'Computer Science';
```



4. Which students are graduating seniors? Order the results by student last name. For each student in the results, list their netid, first name, last name, and major.

SELECT DISTINCT s.netid, s.firstname, s.lastname, c.major

FROM student s, choose c

WHERE s.graduating = '1' AND s.class = 'senior' AND s.netid = c.netid

ORDER BY lastname

The screenshot shows the pgAdmin 4 interface running on a Linux desktop. The left sidebar contains various icons for software like VSCode, Firefox, Atom, and PostgreSQL. The main window displays a table of student data and a query editor with the SQL code for the question.

Table Data:

netid	firstname	lastname	major
eec14	Emma	Cowden	Music Education
am2	Amy	Moosey	English
am2	Amy	Moosey	Software Engineering
ts2	Tim	Sanders	Software Engineering
la790	LA	Times	Computer Science

Query Editor:

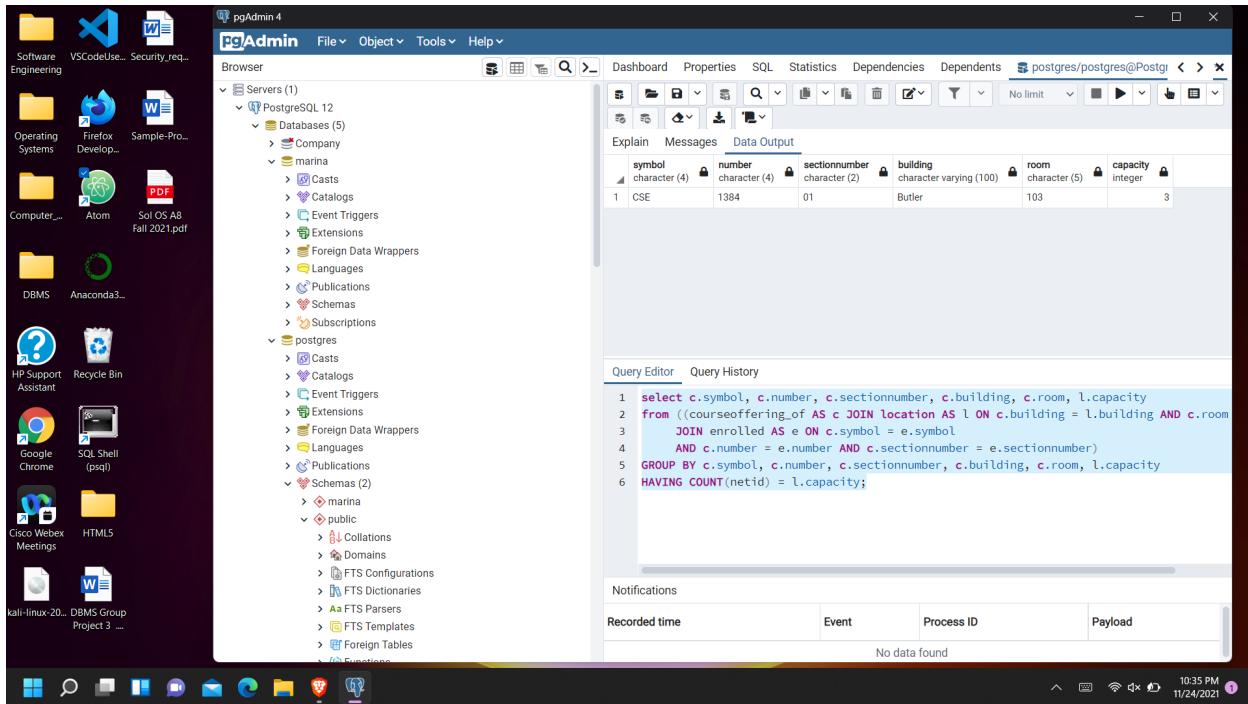
```
1 SELECT DISTINCT s.netid, s.firstname, s.lastname, c.major
2 FROM student s, choose c
3 WHERE s.graduating = '1' AND s.class = 'senior' AND s.netid = c.netid
4 ORDER BY lastname
5
6 select * from student
7 select * from choose
```

5. Which course offerings are currently full (the number of students enrolled equals the capacity of the room it is held in)? For each of the course offerings in the results, list its symbol, number, section number, building, room number, and capacity.

```
select c.symbol, c.number, c.sectionnumber, c.building, c.room, l.capacity  
from ((courseoffering_of AS c JOIN location AS l ON c.building = l.building AND  
c.room = l.room)  
      JOIN enrolled AS e ON c.symbol = e.symbol  
      AND c.number = e.number AND c.sectionnumber = e.sectionnumber)  
GROUP BY c.symbol, c.number, c.sectionnumber, c.building, c.room, l.capacity  
HAVING COUNT(netid) = l.capacity;
```

Alternatively,

```
select e.symbol, e.number, e.sectionnumber, l.building, l.room, l.capacity  
from enrolled As e, location As l  
GROUP BY e.symbol, e.number, e.sectionnumber, l.building, l.room, l.capacity  
HAVING COUNT(netid) = l.capacity;
```



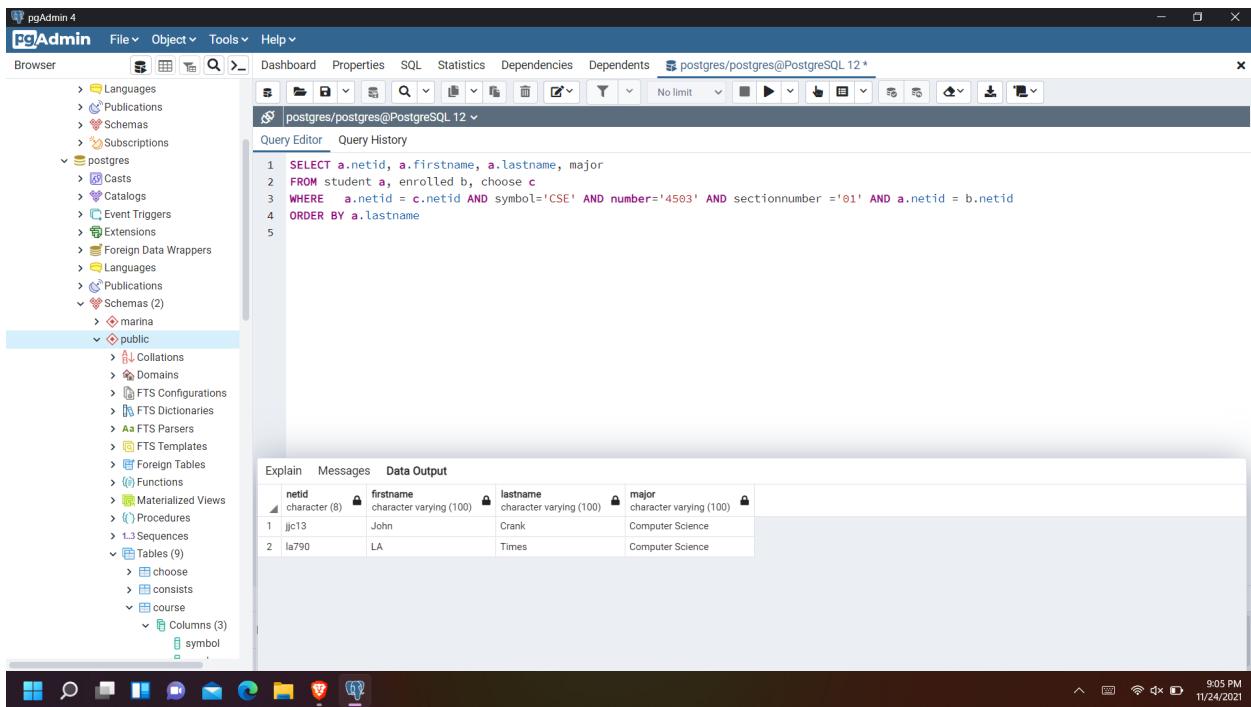
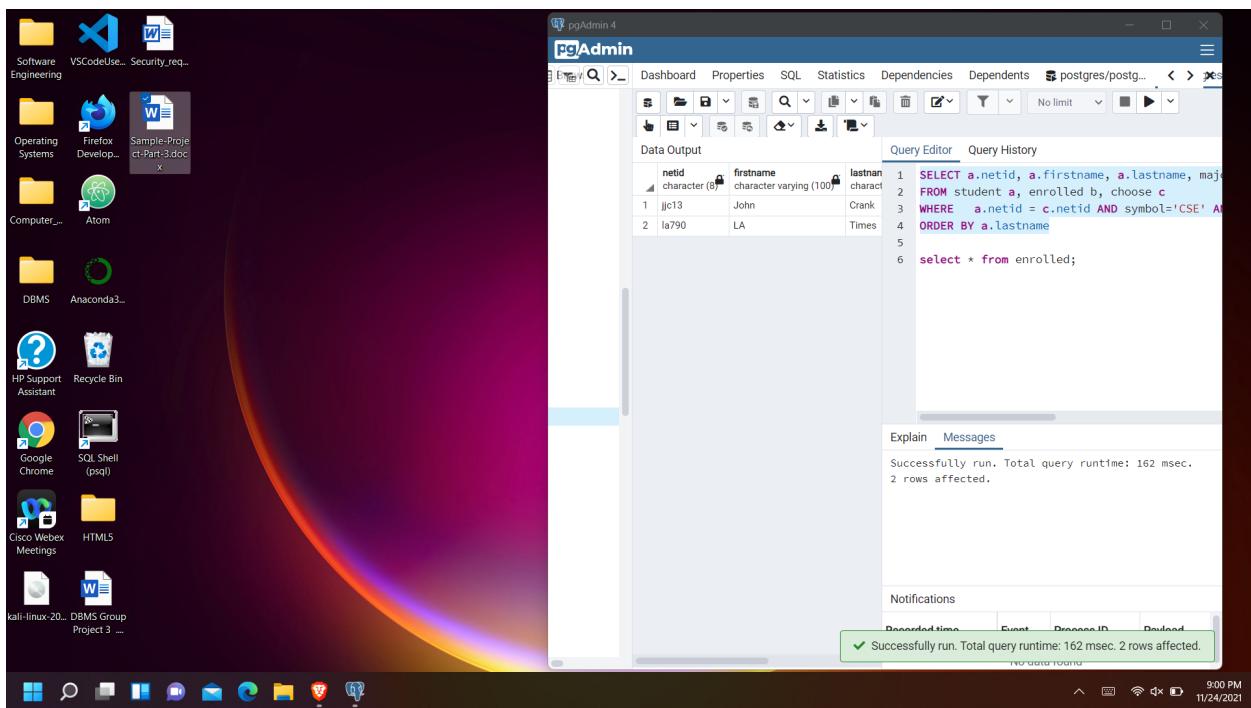
6. Which students are enrolled in CSE 4503 01? List the results in order of student last name. For each student, list their netid, first name, last name, and major.

SELECT a.netid, a.firstname, a.lastname, major

FROM student a, enrolled b, choose c

WHERE a.netid = c.netid AND symbol='CSE' AND number='4503' AND sectionnumber ='01' AND a.netid = b.netid

ORDER BY a.lastname



7. Are there any students that are on both the enrolled list and waiting list for the same course section? If so, list their netid and the course (course symbol, number, and section number).

```
select e.netid, e.symbol, e.number, e.sectionnumber
```

```
from enrolled e, waitinglist w
```

```
where e.netid = w.netid AND e.symbol = w.symbol AND e.number = w.number
```

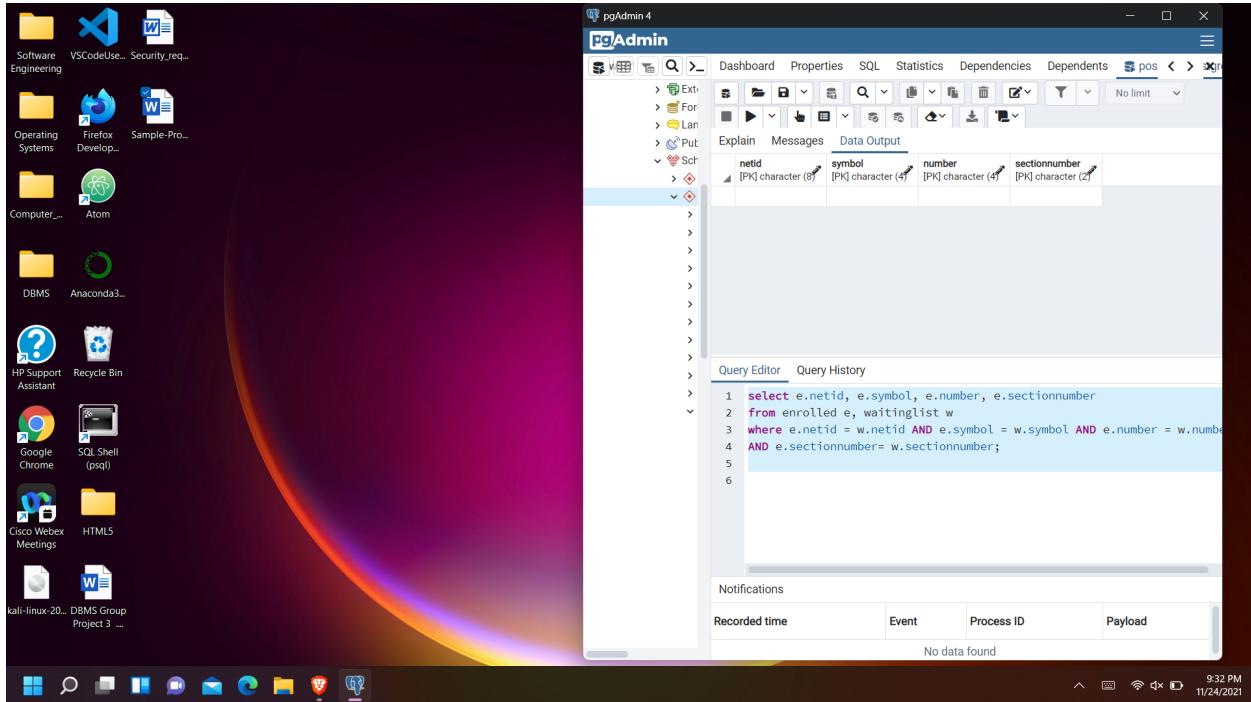
```
AND e.sectionnumber= w.sectionnumber;
```

Alternatively,

```
SELECT e.netid, e.symbol, e.number, e.sectionnumber
```

```
FROM enrolled AS e JOIN waitinglist AS w ON e.netid = w.netid
```

```
WHERE e.symbol = w.symbol AND e.number = w.number AND e.sectionnumber =  
w.sectionNumber;
```

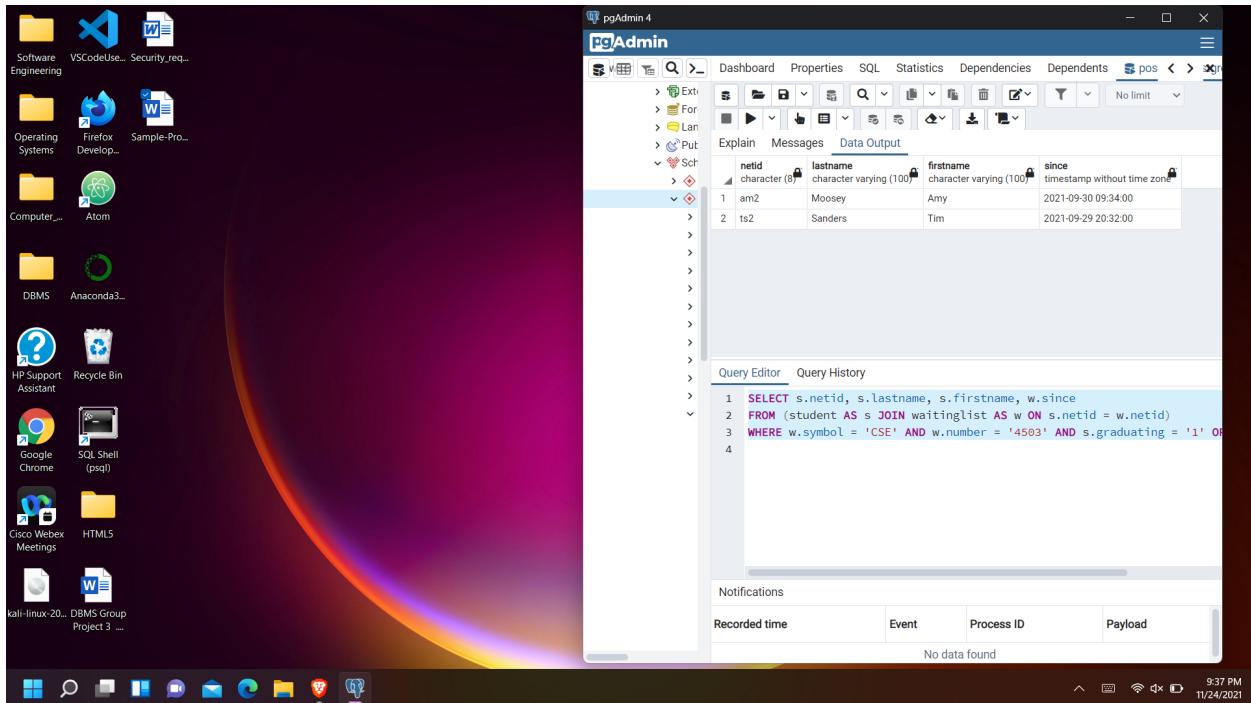


8. Who are the graduating seniors on the waiting list of CSE 4503 01? For each student, list their netid, last name, first name, and date/time added to the waiting list. Order the list in decreasing order of how long the student has been on the waiting list.

```
SELECT s.netid, s.lastname, s.firstname, w.since
```

```
FROM (student AS s JOIN waitinglist AS w ON s.netid = w.netid)
```

```
WHERE w.symbol = 'CSE' AND w.number = '4503' AND s.graduating = '1' ORDER BY  
since DESC;
```



References

Markham, Leann. (2021). wait_list.sql.txt. DBMS.

Kantarcio glu, Murat (n/d). “SQL Examples”, UTD.

<https://personal.utdallas.edu/~muratk/courses/db17files/sql-examples.pdf>