

```
//1
```

```
SELECT s.lname, g.group_name
```

```
FROM students s ,groups g
```

```
WHERE s.group_id = g.group_id
```

```
AND g.major_id IN (
```

```
SELECT m.major_id
```

```
FROM majors m
```

```
WHERE g.major_id = m.major_id AND m.major_name = 'CSSE'
```

```
)
```

The screenshot shows the pgAdmin 4 web interface. The left sidebar displays the database structure for 'UniversityForLab8', including schemas, tables, and views. The main window shows a SQL query in the 'Query Editor' tab. The query is a complex join between 'students', 'groups', and 'majors' tables, filtering for 'CSSE' majors. Below the query editor, the 'Data Output' tab shows the results of the query, which is a table with two columns: 'lname' and 'group_name'. The results list 8 rows of data.

```
SELECT s.lname, g.group_name
FROM students s ,groups g
WHERE s.group_id = g.group_id
AND g.major_id IN (
SELECT m.major_id
FROM majors m
WHERE g.major_id = m.major_id AND m.major_name = 'CSSE'
)
)

//2
SELECT s.stud_id, p.final
FROM students s , progress p
```

lname	group_name
Abdiganiev	CSSE-131
Abai	CSSE-132
Achilova	CSSE-133
Adilhan	CSSE-134
Aasainov	CSSE-135
Aimanov	CSSE-136
Aisnat	CSSE-137
Akkoskharov	CSSE-138

Successfully run. Total query runtime: 135 msec. 8 rows affected.

//2

```
SELECT s.stud_id, p.final
```

```
FROM students s , progress p
```

```
WHERE s.stud_id = p.stud_id
```

```
AND p.final > (SELECT avg(p.final) FROM progress p)
```

The screenshot shows the pgAdmin 4 web interface in a browser window. The left sidebar displays the database structure for 'UniversityForLab8', including tables like 'students', 'progress', and 'majors'. The main pane shows a SQL query in the 'Query Editor' with line numbers 41 to 69. The query is as follows:

```
41 SELECT s.stud_id, p.final
42 FROM students s , progress p
43 WHERE s.stud_id = p.stud_id
44 AND p.final > (SELECT avg(p.final) FROM progress p)
45
46 FROM students s
47 WHERE s.stud_id = p.stud_id
48
49 //2
50
51 SELECT s.stud_id, p.final
52 FROM students s , progress p
53 WHERE s.stud_id = p.stud_id
54 AND p.final > (SELECT avg(p.final) FROM progress p)
55
56 //3
57
58 SELECT t.stud_id, p.final
59 FROM students s , progress p
60 WHERE s.stud_id = p.stud_id
```

Below the query editor, the 'Data Output' tab shows the results of the query in a table with two columns: 'stud_id' and 'final'. The results are as follows:

stud_id	final
1	90
2	80
3	75
4	85
5	100

The bottom of the interface shows the Windows taskbar with various application icons and the system clock indicating 16:19 on 24.11.2020.

//3

```
SELECT t.lname, d.dep_name
FROM teachers t, departments d
WHERE t.dep_id = d.dep_id
AND t.dep_id IN(
SELECT d.dep_id
FROM departments d
WHERE d.dep_id = 1 or d.dep_id = 2
)
```

The screenshot shows the pgAdmin 4 web interface in a browser. The left sidebar displays the database structure for 'UniversityForLab8', including tables like 'classes', 'credits', 'departments', 'groups', 'majors', 'progress', 'schedule', 'students', 'subjects', 'teachers', 'Trigger Functions', 'Types', and 'Views'. The main pane shows a SQL query in the 'Query Editor' window. The query is a SELECT statement that joins 'teachers' and 'departments' tables, filtering for teachers whose department ID is either 1 or 2. The query is as follows:

```
--
51
52 SELECT s.stud_id, p.final
53 FROM students s, progress p
54 WHERE s.stud_id = p.stud_id
55 AND p.final > (SELECT avg(p.final) FROM progress p)
56
57 //3
58
59 SELECT t.lname, d.dep_name
60 FROM teachers t, departments d
61 WHERE t.dep_id = d.dep_id
62 AND t.dep_id IN(
63 SELECT d.dep_id
64 FROM departments d
65 WHERE d.dep_id = 1 or d.dep_id = 2
66 )
67
68 // 4
69 SELECT s.lname, p.final
70 FROM students s, progress p
```

Below the query editor, the 'Query Output' tab shows the results of the query. The results are displayed in a table with two columns: 'lname' and 'dep_name'. The data is as follows:

lname	dep_name
Zyaginceva	CSSEST
Serjey	CSSEST
Rakhimshanova	CSSEST
Kozina	CSSEST
Aristonova	IS
Turan	IS
Toktueva	IS

// 4

```
SELECT s.lname,p.final  
FROM students s , progress p  
WHERE p.stud_id = s.stud_id  
and p.final NOT IN(  
SELECT p.final  
FROM progress p  
WHERE p.final < 50  
)
```

UNION

```
SELECT s.lname,p.final  
FROM students s , progress p  
WHERE p.stud_id = s.stud_id  
and p.final IN(  
SELECT p.final  
FROM progress p  
WHERE p.final < 50  
)
```

The screenshot shows the pgAdmin 4 web interface. The left sidebar displays the database structure for 'UniversityForLab8', including tables like 'classes', 'credits', 'departments', 'ed_process', 'groups', 'majors', 'progress', 'schedule', 'students', 'subjects', 'teachers', and 'types'. The main window shows a SQL query in the 'Query Editor' tab. The query is as follows:

```
// 4  
SELECT s.lname,p.final  
FROM students s , progress p  
WHERE p.stud_id = s.stud_id  
and p.final NOT IN(  
SELECT p.final  
FROM progress p  
WHERE p.final < 50  
)  
UNION  
SELECT s.lname,p.final  
FROM students s , progress p  
WHERE p.stud_id = s.stud_id  
and p.final IN(  
SELECT p.final  
FROM progress p  
WHERE p.final < 50  
)
```

Below the query editor, the 'Messages' tab shows the results of the query. The results are displayed in a table with two columns: 'lname' (character varying (20)) and 'final' (integer). The results are as follows:

lname	final
Abdiganer	80
Achilova	70
Abai	80
Adikhan	100
Aimenov	30
Akkoskarov	75
Akmet	42
Asanov	85

//5

SELECT s.lname

FROM students s

WHERE length(s.lname) > ALL(SELECT length(t.lname) FROM teachers t)

The screenshot shows the pgAdmin 4 web interface in a browser window. The left sidebar displays the database structure for 'UniversityForLab8', including schemas, tables, and views. The main pane shows a SQL query in the 'Query Editor' tab. The query is as follows:

```
77 UNION
78 SELECT s.lname, p.final
79 FROM students s, progress p
80 WHERE p.stud_id = s.stud_id
81 and p.final IN(
82 SELECT p.final
83 FROM progress p
84 WHERE p.final < 50
85 )
86
87
88 //5
89 SELECT s.lname
90 FROM students s
91 WHERE length(s.lname) > ALL(SELECT length(t.lname) FROM teachers t)
92
93
94
95
96
```

Below the query editor, the 'Messages' tab shows the results of the query. The first message is:

lname
character varying (20)
1 ALLLLAADIINOOOWO

A green status bar at the bottom right indicates: 'Successfully run. Total query runtime: 80 msec. 1 rows affected.'