1)
```
SELECT t1.number FROM (SELECT g.number, count(*) FROM groups g
LEFT OUTER JOIN schedules s ON g.id = s.group_id GROUP BY g.number)
t1 WHERE t1.count = (SELECT max(t2.count) FROM (SELECT g.number,
count(*) FROM groups g LEFT OUTER JOIN schedules s ON g.id =
s.group_id group by g.number) t2);
```

2)
```
SELECT chair_num, count(*) as nagruzka FROM teachers t LEFT OUTER
JOIN schedules s ON t.id=s.teacher_id GROUP BY chair_num;
```

3)
```
SELECT t1.number FROM (SELECT r.number, s.day, count(*) FROM rooms r
LEFT OUTER JOIN schedules s ON r.id = s.room_id WHERE day < 7
GROUP BY r.number, s.day) t1 WHERE count < 2;
```

4)
```
SELECT distinct t.fio FROM teachers t LEFT OUTER JOIN schedules s ON
t.id = s.teacher_id LEFT OUTER JOIN disciplines d ON d.id = s.discipline_id
WHERE d.name LIKE 'математика' OR d.name LIKE 'физика';
```

5)
```
SELECT s.pair, d.name, r.number, t.fio FROM groups g LEFT OUTER JOIN
schedules s ON g.id = s.group_id LEFT OUTER JOIN disciplines d ON d.id =
s.discipline_id LEFT OUTER JOIN rooms r ON r.id = s.room_id LEFT OUTER
JOIN teachers t on t.id = s.teacher_id WHERE g.number = 1171 AND s.day =
1 ORDER BY s.pair ASC;
```