

### --5.1

```
SELECT surname, first_name, Teacher.teacher_number, course_code, instance_number
FROM Teacher JOIN CourseInstance ON (Teacher.teacher_number =
CourseInstance.teacher_number)
ORDER BY surname, first_name, course_code, instance_number
```

surname	first_name	teacher_number	course_code	instance_number
Kokki	Seppo	h180	a480	1
Ponteva	Veli	h303	a450	1
Ponteva	Veli	h303	a450	3
Ponteva	Veli	h303	a450	4
Ponteva	Veli	h303	a730	2
Ponteva	Veli	h303	a730	3
Saari	Sisko	h290	a730	1
Tahko	Olka	h560	a450	2
Vainio	Veera	h784	a480	2
Virta	Emma	h430	a290	1

(10 rows affected)

### --5.2

```
SELECT course_code, course_name, CONCAT(surname, first_name) AS "Person in charge"
FROM Course JOIN Teacher ON (Course.person_in_charge = Teacher.teacher_number)
ORDER BY course_code ASC
```

course_code	course_name	Person in charge
a290	Java Basics	VirtaEmma
a450	Cloud Computing	VirtaEmma
a480	Data Management	VainioVeera
a500	Database Developer	PontevaVeli
a510	Database Design	PontevaVeli
a730	E-business	SaariSisko
a800	Finnish 1	MatikkaMauri

(7 rows affected)

### --5.3

```
SELECT Student.surname, Student.first_name, Student.student_number, CAST(AVG(grade * 1.0) AS
decimal(4,2)) AS "Average grade"
FROM Student JOIN CourseGrade ON (Student.student_number = CourseGrade.student_number)
GROUP BY Student.student_number, Student.surname, Student.first_name
ORDER BY surname, first_name, student_number
```

surname	first_name	student_number	Average grade
---------	------------	----------------	---------------

<b>Huhta</b>	Usko	o354	2.00
<b>Keto</b>	Martti	o649	4.00
<b>Keto</b>	Matti	o349	4.00
<b>Kuikka</b>	Kaarlo	o210	2.00
<b>Käki</b>	Kaarina	o348	5.00
<b>Laine</b>	Rosina	o654	5.00
<b>Leino</b>	Fredrik	o473	1.67
<b>Liimatta</b>	Leila	o410	2.50
<b>Rentukka</b>	Sanna	o148	4.00
<b>Veto</b>	Raimo	o298	3.00
<b>Vuori</b>	Valma	o548	2.00

(11 rows affected)

#### --5.4a

```
SELECT Teacher.surname, Teacher.first_name, Teacher.teacher_number,
AcademicAdvisor.start_date, AcademicAdvisor.end_date
FROM Teacher JOIN AcademicAdvisor ON (Teacher.teacher_number =
AcademicAdvisor.teacher_number)
WHERE AcademicAdvisor.end_date IS NULL
ORDER BY Teacher.surname, Teacher.first_name, Teacher.teacher_number ASC
```

surname	first_name	teacher_number	start_date	end_date
-----	-----	-----	-----	-----
Kiisseli	Marja	h999	2012-01-01	NULL
Ponteva	Veli	h303	2012-01-01	NULL
Saari	Sisko	h290	2012-01-01	NULL
Virta	Emma	h430	2011-01-16	NULL

(4 rows affected)

#### --5.4b

```
SELECT Teacher.surname, Teacher.first_name, Teacher.teacher_number,
AcademicAdvisor.start_date, AcademicAdvisor.end_date
FROM Teacher RIGHT JOIN AcademicAdvisor ON (Teacher.teacher_number =
AcademicAdvisor.teacher_number)
ORDER BY Teacher.surname, Teacher.first_name, Teacher.teacher_number ASC
```

surname	first_name	teacher_number	start_date	end_date
-----	-----	-----	-----	-----
Kiisseli	Marja	h999	2012-01-01	NULL
Kokki	Seppo	h180	2011-01-01	2011-12-15
Ponteva	Veli	h303	2010-01-15	2011-06-30
Ponteva	Veli	h303	2012-01-01	NULL

Saari	Sisko	h290	2012-01-01	NULL
Virta	Emma	h430	2011-01-16	NULL

(6 rows affected)

--5.5

```
SELECT MisconductType.description AS 'Misconduct occurred this far'
FROM MisconductType JOIN MisconductIncident ON MisconductType.misconduct_code =
MisconductIncident.misconduct_code
ORDER BY MisconductType.description ASC
```

Misconduct occurred this far

-----

Dual submission (submitting own work, which already has been graded for an earlier course, for a second course)

Freeloading in a group work assignment

(2 rows affected)

--5.6

```
SELECT Student.surname, Student.first_name, Student.student_number, CourseGrade.course_code,
CourseGrade.grade
FROM Student LEFT JOIN CourseGrade ON (Student.student_number =
CourseGrade.student_number)
WHERE Student.city = 'Helsinki' AND CourseGrade.grade > 2
ORDER BY Student.surname, Student.first_name, Student.student_number,
CourseGrade.course_code
```

surname first\_name student\_number course\_code grade

-----

Keto	Martti	o649	a480	4
Keto	Martti	o649	a730	4
Kuikka	Kaarlo	o210	a450	3
Rentukka	Sanna	o148	a730	4
Veto	Raimo	o298	a290	3
Veto	Raimo	o298	a480	3

(6 rows affected)

--5.7

```
SELECT DISTINCT CourseInstance.course_code, Course.course_name, Teacher.teacher_number,
Teacher.surname, Teacher.first_name
```

```
FROM CourseInstance INNER JOIN Teacher ON (Teacher.teacher_number =
CourseInstance.teacher_number)
JOIN Course ON (Course.course_code = CourseInstance.course_code)
WHERE CourseInstance.course_code = 'a730'
ORDER BY Teacher.teacher_number ASC
```

```
course_code course_name      teacher_number surname first_name
```

```
-----
a730      E-business      h290      Saari Sisko
a730      E-business      h303      Ponteva Veli
```

(2 rows affected)

--5.8

```
SELECT Course.course_name, CourseGrade.grade, Student.surname, Student.first_name,
Student.student_number
FROM Student RIGHT JOIN CourseGrade ON (Student.student_number =
CourseGrade.student_number)
JOIN Course ON (Course.course_code = CourseGrade.course_code)
WHERE CourseGrade.grade IS NOT NULL AND CourseGrade.grade != 0 AND Student.gender = 'F'
ORDER BY Course.course_name, CourseGrade.grade, Student.surname ASC, Student.first_name ASC
, Student.student_number ASC
```

```
course_name      grade surname first_name student_number
```

```
-----
Cloud Computing   5   Laine Rosina o654
E-business        3   Liimatta Leila o410
E-business        4   Rentukka Sanna o148
E-business        5   Käki Kaarina o348
Java Basics      2   Liimatta Leila o410
Java Basics      2   Vuori Valma o548
```

(6 rows affected)

--5.9

```
SELECT CourseGrade.course_code, Course.course_name, COUNT(*) AS "Grade Five"
FROM CourseGrade LEFT JOIN Course ON (CourseGrade.course_code = Course.course_code)
JOIN Student ON (Student.student_number = CourseGrade.student_number)
WHERE Student.gender = 'F' AND CourseGrade.grade = '5'
GROUP BY CourseGrade.course_code, Course.course_name
ORDER BY CourseGrade.course_code ASC
```

```
course_code course_name      Grade Five
```

```
-----
a450      Cloud Computing      1
a730      E-business      1
```

(2 rows affected)

#### --5.10

```
SELECT DISTINCT Student.surname, Student.first_name, Student.student_number
FROM Student JOIN CourseGrade ON (Student.student_number = CourseGrade.student_number)
WHERE CourseGrade.grade = '3'
ORDER BY Student.surname ASC, Student.first_name ASC, Student.student_number ASC
```

surname	first_name	student_number
Kuikka	Kaarlo	o210
Leino	Fredrik	o473
Liimatta	Leila	o410
Veto	Raimo	o298

(4 rows affected)

#### --5.11

```
SELECT DISTINCT Teacher.teacher_number, Teacher.surname, Teacher.first_name,
DATENAME(MONTH, CourseGrade.grade_date) AS "Grade month"
FROM Teacher JOIN CourseGrade ON (Teacher.teacher_number = CourseGrade.examiner)
WHERE DATENAME(MONTH, CourseGrade.grade_date) = 'May'
ORDER BY Teacher.teacher_number ASC
```

teacher_number	surname	first_name	Grade month
h180	Kokki	Seppo	May
h784	Vainio	Veera	May

(2 rows affected)

#### --5.12

```
SELECT gender, CAST(AVG(grade * 1.0) AS decimal(4,2)) AS "Average grade", COUNT(ALL grade) AS
"Number of grades"
FROM CourseGrade JOIN Student ON (CourseGrade.student_number = Student.student_number)
GROUP BY gender
```

gender	Average grade	Number of grades
--------	---------------	------------------

F	3.50	6
M	2.64	11

Warning: Null value is eliminated by an aggregate or other SET operation.

(2 rows affected)

### --5.13

```
SELECT DISTINCT Campus.campus_name, AcademicAdvisor.teacher_number
FROM Campus CROSS JOIN AcademicAdvisor
ORDER BY Campus.campus_name ASC, AcademicAdvisor.teacher_number ASC
```

campus\_name teacher\_number

-----

Malmi	h180
Malmi	h290
Malmi	h303
Malmi	h430
Malmi	h999
Pasila	h180
Pasila	h290
Pasila	h303
Pasila	h430
Pasila	h999
Porvoo	h180
Porvoo	h290
Porvoo	h303
Porvoo	h430
Porvoo	h999
Vierumäki	h180
Vierumäki	h290
Vierumäki	h303
Vierumäki	h430
Vierumäki	h999

(20 rows affected)

### --5.14

```
SELECT MisconductIncident.course_code, MisconductIncident.instance_number,
Course.course_name, MisconductIncident.student_number, Student.surname, Student.first_name,
MisconductType.description
FROM MisconductIncident
JOIN MisconductType ON (MisconductType.misconduct_code =
MisconductIncident.misconduct_code)
JOIN Course ON (Course.course_code = MisconductIncident.course_code)
JOIN Student ON (Student.student_number = MisconductIncident.student_number)
```

course_code	instance_number	course_name	student_number	surname	first_name	description
a480	2	Data Management	o473	Leino	Fredrik	Dual submission

						(submitting own work, which already has been graded for an earlier course, for a second course)
a450	2	Cloud Computing	o548	Vuori	Valma	Freeloading in a group work assignment

(2 rows affected)

--5.15

```
SELECT Student.student_number, Student.surname, Student.first_name, SanctionType.description,
MisconductType.description
FROM MisconductIncident
JOIN MisconductType ON (MisconductType.misconduct_code =
MisconductIncident.misconduct_code)
JOIN SanctionType ON (SanctionType.sanction_code = MisconductIncident.sanction_code)
JOIN Student ON (Student.student_number = MisconductIncident.student_number)
WHERE SanctionType.description = 'Written Warning'
```

student_number	surname	first_name	description	description
----------------	---------	------------	-------------	-------------

o548	Vuori	Valma	Written warning	Freeloading in a group work assignment
------	-------	-------	-----------------	--

(1 row affected)

--5.16

```
SELECT CAST(COUNT(*) * 100 * 1.0 / (SELECT COUNT(*) FROM Student) AS DECIMAL(4,1)) AS
"Misconduct %"
FROM Student JOIN MisconductIncident ON (Student.student_number =
MisconductIncident.student_number)
```

```
WHERE Student.student_number IN (SELECT MisconductIncident.student_number FROM
MisconductIncident)
Misconduct %
```

```
-----
```

15.4

(1 row affected)

#### --5.17 (ORDER BY surname, first\_name?)

```
SELECT DISTINCT Course.course_name, CONCAT(Teacher.surname, Teacher.first_name) AS "Person
in charge", Teacher.teacher_number
FROM CourseInstance
JOIN Teacher ON (CourseInstance.teacher_number = Teacher.teacher_number)
JOIN Course ON (Course.course_code = CourseInstance.course_code)
WHERE Course.person_in_charge = CourseInstance.teacher_number
ORDER BY [Person in charge] ASC, Teacher.teacher_number ASC
course_name      Person in charge teacher_number
```

```
-----
```

E-business	SaariSisko	h290
Data Management	VainioVeera	h784
Java Basics	VirtaEmma	h430

(3 rows affected)

#### --5.18

```
SELECT Prerequisite.course_code, Course.course_name, CONCAT( Prerequisite.prerequisite_code, '',
Course.course_name) AS "Prerequisite"
FROM Prerequisite JOIN Course ON (Prerequisite.prerequisite_code = Course.course_code)
WHERE Prerequisite.course_code = 'a500'
ORDER BY Prerequisite.prerequisite_code
```

course_code	course_name	Prerequisite
-----		
a500	Data Management	a480 Data Management

(1 row affected)

#### --5.19

```
SELECT Cl.course_code, Cl.instance_number, C1.course_name, T1.teacher_number + '' +
T1.surname + ',' + T1.first_name AS 'Teacher',
```



```

C1.person_in_charge + ' ' + T1.surname + ' ' + T1.first_name AS 'person in charge'
FROM CourseInstance AS CI
LEFT JOIN Teacher AS T1 ON T1.teacher_number = CI.teacher_number
LEFT JOIN Course AS C1 ON C1.course_code = CI.course_code

```

course_code	instance_number	course_name	Teacher	person in charge
a290	1	Java Basics	h430 Virta, Emma	h430 Virta, Emma
a290	2	Java Basics	NULL	NULL
a450	1	Cloud Computing	h303 Ponteva, Veli	h430 Ponteva, Veli
a450	2	Cloud Computing	h560 Tahko, Olka	h430 Tahko, Olka
a450	3	Cloud Computing	h303 Ponteva, Veli	h430 Ponteva, Veli
a450	4	Cloud Computing	h303 Ponteva, Veli	h430 Ponteva, Veli
a480	1	Data Management	h180 Kokki, Seppo	h784 Kokki, Seppo
a480	2	Data Management	h784 Vainio, Veera	h784 Vainio, Veera
a730	1	E-business	h290 Saari, Sisko	h290 Saari, Sisko
a730	2	E-business	h303 Ponteva, Veli	h290 Ponteva, Veli
a730	3	E-business	h303 Ponteva, Veli	h290 Ponteva, Veli
a730	4	E-business	NULL	NULL

(12 rows affected)