
INFO90002 Database Systems and Information Modelling SM2, 2018 Assignment 2

Peiyong Wang 955986

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1

Q1 What is the longest student name? (The length of a student's name is the sum of the lengths of their given and family names)

```
SELECT 'givenName', 'familyName' FROM 'Student'  
ORDER BY LENGTH('givenName') + LENGTH('familyName')  
DESC LIMIT 1;
```

	givenName	familyName
▶	Charlie	Nguyen

Figure 1.1: Results for question one

One row returned.

2

Q2 List the names of students who have not yet entered any free times.

```
SELECT 'givenName', 'familyName' FROM 'Student'  
LEFT JOIN 'Availability' ON 'Student'.id = 'Availability'.Student  
WHERE 'Availability'.Student IS NULL;
```

	givenName	familyName
►	Dan	Williams
	Eve	Brown
	Frank	Jones
	Grace	Wilson
	Heidi	Taylor
	Ian	Lee
	Judy	Tran
	Kath	Anderson
	Lee	Thomas
	Mallory	White
	Nick	Johnson
	Olivia	Martin
	Pat	Wang
	Quentin	Chen
	Robbie	Ryan
	Sam	Thompson
	Tracey	Young

Figure 2.1: Results for question two

17 rows returned.

3

Q3 Which students are free on Wednesday at 10am? (show id and name)

```
SELECT 'Student'.* FROM 'Student', 'Availability'
WHERE 'Student'.id = 'Availability'.Student
AND 'Availability'.hour = 10
AND 'Availability'.day = 'Wed';
```

	id	givenName	familyName
▶	10001	Alice	Smith
	10002	Bob	Singh
	10003	Charlie	Nguyen

Figure 3.1: Results for question three

3 rows returned.

4

Q4 List each student's name. For those who are in a group, list also the name of their group.

```
SELECT 'Student'.givenName, 'Student'.familyName, 'Groups'.name AS 'groupName'
FROM 'Student' LEFT OUTER JOIN 'StudentInGroup'
ON 'Student'.id = 'StudentInGroup'.StudentId
LEFT OUTER JOIN 'Groups'
ON 'StudentInGroup'.groupId = 'Groups'.id
```

20 rows returned

	givenName	familyName	groupName
▶	Alice	Smith	WeLoveDb
	Bob	Singh	WeLoveDb
	Charlie	Nguyen	WeLoveDb
	Dan	Williams	WeHateDb
	Eve	Brown	WeHateDb
	Frank	Jones	WeHateDb
	Grace	Wilson	Three
	Heidi	Taylor	Three
	Ian	Lee	Three
	Judy	Tran	TooBig
	Kath	Anderson	TooBig
	Lee	Thomas	TooBig
	Mallory	White	TooBig
	Nick	Johnson	TooSmall
	Olivia	Martin	TooSmall
	Pat	Wang	NULL
	Quentin	Chen	NULL
	Robbie	Ryan	NULL
	Sam	Thompson	NULL
	Tracey	Young	NULL

Figure 4.1: Results for question four

5

Q5 For any groups that have more than 3 students, list the group's id, name and number of students.

```
SELECT 'groupId' AS 'ID of the group', 'Groups'.name AS 'group name' , COUNT('groupId') AS 'number of students'
FROM 'StudentInGroup' LEFT JOIN 'Groups' ON 'StudentInGroup'.groupId = 'Groups'.id
GROUP BY 'StudentInGroup'.groupId
HAVING (COUNT('StudentInGroup'.groupId) > 3) ;
```

	ID of the group	group name	number of students
►	4	TooBig	4

Figure 5.1: Results for question five

1 row retruned.

6

Q6 Is student "Alice Smith" free at lunch on Wednesdays?

```
SELECT IF(
  (SELECT * FROM
    (SELECT 'description' FROM 'Student'
     INNER JOIN 'Availability' ON 'Student'.id = 'Availability'.Student
     INNER JOIN 'Calendar'
     ON 'Availability'.day = 'Calendar'.day AND 'Availability'.hour = 'Calendar'.hour
     WHERE 'givenName' = 'Alice' AND 'familyName' = 'Smith') AS DT
    WHERE 'DT'.description='lunch') = 'lunch',
  'yes',
  'no'
)
AS 'Is Alice Smith free at lunch on Wednesdays';
```

	Is Alice Smith free at lunch on Wednesdays
►	no

Figure 6.1: Results for question six

1 row retruned.

7

Q7 List all times when students 10001 and 10002 are both free.

```
SELECT 'Availability'.day, 'Availability'.hour FROM 'Availability'
WHERE 'Availability'.Student = 10001
AND ('Availability'.day, 'Availability'.hour)
IN
  (SELECT 'Availability'.day, 'Availability'.hour FROM 'Availability'
   WHERE 'Availability'.Student = 10002);
```

	day	hour
▶	Wed	10

Figure 7.1: Results for question seven

1 row retruned.

8

Q8 For each group, list the group id and name of the student whose family name is alphabetically first in the group.

```
SELECT 'groupId', 'givenName', 'familyName' FROM
  (SELECT 'groupId', 'givenName', 'familyName' FROM 'StudentInGroup'
    LEFT JOIN 'Student' ON 'StudentInGroup'. 'StudentId'='Student'. 'id'
    ORDER BY 'groupId', 'familyName' DESC) AS t1
LEFT JOIN
  (SELECT 'groupId' AS gID, 'givenName' AS ggN, 'familyName' AS fN
    FROM 'StudentInGroup' LEFT JOIN 'Student' ON 'StudentInGroup'. 'StudentId'='Student'. 'id'
    ORDER BY 'groupId', 'familyName' DESC) AS t2
ON t1.'groupId' = t2.'gID' AND t1.'familyName' > t2.'fN'
WHERE t2.'gID' IS NULL
ORDER BY 1;
```

	groupId	givenName	familyName
▶	1	Charlie	Nguyen
	2	Eve	Brown
	3	Ian	Lee
	4	Kath	Anderson
	5	Nick	Johnson

Figure 8.1: Results for question eight

5 rows retruned.

9

Q9 Which students are free on Wednesdays between 10am and 12 noon? Show their ids and names.

```
SELECT 'id', 'givenName', 'familyName' FROM
  (SELECT *
    FROM 'Student' AS S INNER JOIN 'Availability' AS AVA ON 'S'. 'id'='AVA'. 'Student'
    WHERE 'AVA'. 'day' = 'Wed'
    AND 'AVA'. 'hour' BETWEEN 10 AND 11 ) AS DT
WHERE 'DT'. 'hour' = 11;
```

2 rows retruned.

	id	givenName	familyName
▶	10002	Bob	Singh
	10003	Charlie	Nguyen

Figure 9.1: Results for question nine

10

Q10 Are the members of 'WeLoveDb' all free on Wednesday at 10am?

```

SELECT IF(
    (SELECT COUNT(*) FROM 'StudentInGroup'
     INNER JOIN 'Groups'
     ON 'StudentInGroup'.groupId = 'Groups'.id WHERE 'Groups'.name='WeLoveDb')
    =
    (SELECT COUNT(*) FROM 'StudentInGroup'
     INNER JOIN 'Groups' ON 'StudentInGroup'.groupId = 'Groups'.id
     INNER JOIN 'Availability' ON 'Availability'.Student='StudentInGroup'.StudentId
     WHERE 'Groups'.name='WeLoveDb' AND 'Availability'.day='Wed' AND 'Availability'.hour=10),
    'yes',
    'no'
)
AS 'Are the members of \'WeLoveDb \' all free on Wednesday at 10am?';

```

Are the members of 'WeLoveDb' all free on Wednesday at 10am?
▶ yes

Figure 10.1: Results for question ten

1 row retruned.