

# SQL **EASY**

---



25+1 bonus questions

# **DESIGNED BY**

Senthil Arul

# **COURSE LENGTH**

2 hours

# QUESTION 1

Show first name, last name and gender of patients who's gender is 'M'

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get required columns

Step 2: use WHERE to get gender 'M'

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name	last_name	gender
Donald	Waterfield	M
Mickey	Baasha	M
Jiji	Sharma	M
Blair	Diaz	M
Charles	Wolfe	M
Thomas	ONEILL	M

# QUESTION 2

Show first name and last name of patients  
who does not have allergies (i.e. NULL)

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get required columns

Step 2: use WHERE to get NULL entries in  
allergies column

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name	last_name
Donald	Waterfield
Blair	Diaz
Thomas	ONeill
Sonny	Beckett
Cedric	Coltrane
Hank	Spencer

# QUESTION 3

Show first name of patients that start with  
the letter 'C'

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get required column

Step 2: use WHERE to get first names that  
start with 'C'

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name
Charles
Cedric
Charles
Cross
Calleigh
Catherine

# QUESTION 4

Show first name and last name of patients  
that weight within the range of 100 to 120  
(both inclusive)

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get required columns

Step 2: use WHERE to get weight between  
100 and 120

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name	last_name
Jiji	Sharma
Blair	Diaz
Thomas	ONeill
Sonny	Beckett
Tom	Halliwell
Jon	Doggett

# QUESTION 5

Update the patients table for the allergies column. If the patient's allergies is null then replace it with 'NKA'

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: get NULL entries from allergies  
column

Step 2: replace NULL entries with 'NKA'

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NKA	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NKA	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# QUESTION 6

Show first name and last name  
concatenated into one column to show their  
full name

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: use CONCAT() to concatenate  
required columns

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



full_name
Donald Waterfield
Mickey Baasha
Jiji Sharma
Blair Diaz
Charles Wolfe
Sue Falcon

# QUESTION 7

Show first name, last name and the full province name of each patient

Example: 'Ontario' instead of 'ON'

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

## province\_names

province_id	province_name
NT	Northwest Territories
NS	Nova Scotia
NU	Nunavut
ON	Ontario
PE	Prince Edward Island
QC	Quebec
SK	Saskatchewan
YT	Yukon

# APPROACH

Step 1: Get required columns from  
both tables

Step 2: JOIN both tables and use alias  
for better readability

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

province_id	province_name
ON	Ontario
NU	Nunavut
NT	Northwest Territories
NS	Nova Scotia



first_name	last_name	province_name
Charles	Wolfe	Ontario
Cedric	Coltrane	Ontario
Charles	Andonuts	Ontario

# QUESTION 8

Show how many patients have a birth\_date  
with 2010 as the birth year

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: use COUNT to get their count

Step 2: use YEAR() to get year

Step 3: use WHERE to filter patients who  
have their birth year in 2010

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1501	Sunny	White	F	1950-04-30	Beamsville	ON	NULL	170	87
1502	Melanie	Patil	F	2003-03-25	Stoney Creek	ON	NULL	179	65
1503	Rocco	Montford	M	1990-07-02	Ancaster	ON	Latex	161	78
1504	Kevin	Meeks	M	2010-05-31	Cambridge	ON	NULL	103	44
1505	Jerry	Heath	M	1984-06-16	Hamilton	ON	Codeine	130	81
1506	Huma	Fansler	F	1974-06-14	Waterford	ON	Codeine	164	66



total_patients
55

# QUESTION 9

Show first\_name, last\_name and height of the patient with greatest height

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: use MAX() to get greatest height

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
316	Sam	Lester	M	1982-12-06	Hamilton	ON	NULL	203	124
773	Sam	Haruko	M	1982-12-12	Hamilton	ON	Peanut Oil	226	121
808	Sam	Sugden	M	2007-05-04	Barrie	ON	ASA	133	53
975	Sam	Vitoller	M	2017-12-06	Hamilton	ON	NULL	33	3
1030	Sam	Wilson	M	1999-05-19	Hamilton	ON	NULL	192	109
1221	Sam	Carr	M	1960-05-29	Dundas	ON	Penicillin	201	110



first_name	last_name	height
Sam	Haruko	226

# QUESTION 10

Show all columns for patients who have one of the following patient\_ids:

1, 45, 534, 879, 1000

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get all columns

Step 2: use WHERE and IN to filter details  
from given list of patient\_ids

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
45	Cross	Gordon	M	2009-03-20	Ancaster	ON	NULL	125	53
534	Don	Zatara	M	2008-01-11	Timmins	ON	NULL	136	67
879	Orla	Shawn	F	1967-09-24	Sarnia	ON	Penicillin	149	65
1000	Rick	Williams	M	1975-04-13	Hamilton	ON	Penicillin	176	127

# QUESTION 11

Show the total number of admissions

# TABLE

## admissions

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-11-06	2018-11-08	Ovarian Dermoid-Cyct	21
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
3	2019-01-24	2019-01-29	Cardiac Arrest	2
3	2018-10-21	2018-10-27	Congestive Heart Failure	8
6	2018-06-13	2018-06-15	Asthma Exacerbation	3
6	2018-11-08	2018-11-09	Uterine Fibroid	22

# APPROACH

Step 1: use COUNT() to get total number  
of admissions

# RESULT

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-11-06	2018-11-08	Ovarian Dermoid-Cyct	21
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
3	2019-01-24	2019-01-29	Cardiac Arrest	2
3	2018-10-21	2018-10-27	Congestive Heart Failure	8
6	2018-06-13	2018-06-15	Asthma Exacerbation	3
6	2018-11-08	2018-11-09	Uterine Fibroid	22



total_no_of_admissions
5067

# QUESTION 12

Show all columns from admissions table  
where patient was admitted and  
discharged on the same day

# TABLE

## admissions

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-11-06	2018-11-08	Ovarian Dermoid-Cyct	21
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
3	2019-01-24	2019-01-29	Cardiac Arrest	2
3	2018-10-21	2018-10-27	Congestive Heart Failure	8
6	2018-06-13	2018-06-15	Asthma Exacerbation	3
6	2018-11-08	2018-11-09	Uterine Fibroid	22

# APPROACH

Step 1: get all columns

Step 2: use WHERE to filter patients who  
were admitted and discharged  
on the same day

# RESULT

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-11-06	2018-11-08	Ovarian Dermoid-Cyct	21
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
3	2019-01-24	2019-01-29	Cardiac Arrest	2
3	2018-10-21	2018-10-27	Congestive Heart Failure	8
6	2018-06-13	2018-06-15	Asthma Exacerbation	3
6	2018-11-08	2018-11-09	Uterine Fibroid	22



patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
9	2018-12-31	2018-12-31	Ruptured Appendicitis	19
10	2019-02-27	2019-02-27	Lower Quadrant Pain	27
17	2019-03-04	2019-03-04	Diabetes Mellitus	9
28	2019-03-30	2019-03-30	Cancer Of The Stomach	26
31	2018-09-26	2018-09-26	Cardiovascular Disease	19

# QUESTION 13

Show patient id and the total number of admissions for patient\_id: 579

# TABLE

## admissions

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
1	2018-11-06	2018-11-08	Ovarian Dermoid-Cyct	21
1	2018-09-20	2018-09-20	Ineffective Breathin Pattern R/T Fluid Accumulatio	24
3	2019-01-24	2019-01-29	Cardiac Arrest	2
3	2018-10-21	2018-10-27	Congestive Heart Failure	8
6	2018-06-13	2018-06-15	Asthma Exacerbation	3
6	2018-11-08	2018-11-09	Uterine Fibroid	22

# APPROACH

Step 1: use WHERE to filter for  
patient\_id: 579

Step 2: use COUNT() to get total number  
of admissions

# RESULT

patient_id	admission_date	discharge_date	diagnosis	attending_doctor_id
571	2018-12-10	2018-12-13	Pregnancy	7
572	2018-09-30	2018-10-04	Cardiovascular Disease	21
573	2018-08-14	2018-08-14	Possible Renal Calculi	17
575	2018-06-14	2018-06-20	Second & Third Degree Burns To Right Arm/Both Legs	6
575	2018-08-19	2018-08-20	Intestinal Obstruction Hirschsprungs Disease	27
578	2018-08-24	2018-09-02	Infertility, Secondary	16
579	2018-08-19	2018-08-27	Syncope NYD	19
579	2018-12-06	2018-12-12	Osteo Arthritis Knee	19



patient_id	total_number_of_admissions
579	2

# QUESTION 14

Based on cities that our patients live in,  
show unique cities that are in province\_id  
'NS'

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: use WHERE to filter province\_id  
'NS'

Step 2: use DISTINCT() to get unique cities

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1996	Stanislaus	MacLean	M	1968-04-08	Halifax	NS	NULL	184	111
2035	Diane	Carr	F	1950-10-28	Halifax	NS	NULL	145	68
2062	Ellery	La Forge	M	1987-05-20	Halifax	NS	NULL	203	123
2126	Susie	Brand	F	1950-08-16	Inverness	NS	NULL	153	53
2144	Susan	Yurinov	F	1943-12-13	Port Hawkesbury	NS	NULL	175	112
2219	Andy	Tanner	M	1992-04-03	Port Hawkesbury	NS	NULL	204	117



city
Port Hawkesbury
Halifax
Inverness

# QUESTION 15

Write a query to find the first name, last name and birth date of patients who has height greater than 160 and weight greater than 70

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: Get required columns

Step 2: use WHERE and AND to filter  
based on given conditions

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name	last_name	birth_date
Mickey	Baasha	1981-05-28
Jiji	Sharma	1957-09-05
Blair	Diaz	1967-01-07
Thomas	ONeill	1993-01-31
Sonny	Beckett	1952-12-11
Sister	Spitzer	1966-10-15

# QUESTION 16

Write a query to find list of patients  
first\_name, last\_name and allergies from  
Hamilton city where allergies are not null

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: get required columns

Step 2: use WHERE and AND to filter  
based on given conditions

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



first_name	last_name	allergies
Jiji	Sharma	Penicillin
Tom	Halliwell	Ragweed
Nino	Andrews	Peanuts
John	Farley	Gluten
Sam	Threep	Sulpha
Temple	Russert	Hay Fever

# QUESTION 17

Based on cities where our patient lives in, write a query to display the list of unique city starting with a vowel (a, e, i, o, u).

Show the result order in ascending by city

# TABLE

## patients

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5

# APPROACH

Step 1: use WHERE and OR to filter  
based on given conditions

Step 2: use DISTINCT to get unique  
cities only

Step 3: use ORDER BY to arrange cities in  
ascending order

# RESULT

patient_id	first_name	last_name	gender	birth_date	city	province_id	allergies	height	weight
1	Donald	Waterfield	M	1963-02-12	Barrie	ON	NULL	156	65
2	Mickey	Baasha	M	1981-05-28	Dundas	ON	Sulfa	185	76
3	Jiji	Sharma	M	1957-09-05	Hamilton	ON	Penicillin	194	106
4	Blair	Diaz	M	1967-01-07	Hamilton	ON	NULL	191	104
5	Charles	Wolfe	M	2017-11-19	Orillia	ON	Penicillin	47	10
6	Sue	Falcon	F	2017-09-30	Ajax	ON	Penicillin	43	5



city
Ajax
Ancaster
Athens
Edmonton
Elmira
Elmwood

# QUESTION 18

Show the category\_name and description from the categories table sorted by category\_name

# TABLE

## categories

category_id	category_name	description
1	Beverages	Soft drinks, coffees, teas, beers, and ales
2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
3	Confections	Desserts, candies, and sweet breads
4	Dairy Products	Cheeses
5	Grains/Cereals	Breads, crackers, pasta, and cereal
6	Meat/Poultry	Prepared meats

# APPROACH

Step 1: get required columns

Step 2: use ORDER BY to arrange  
category\_name in ascending order

# RESULT

category_id	category_name	description
1	Beverages	Soft drinks, coffees, teas, beers, and ales
2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
3	Confections	Desserts, candies, and sweet breads
4	Dairy Products	Cheeses
5	Grains/Cereals	Breads, crackers, pasta, and cereal
6	Meat/Poultry	Prepared meats



category_name	description
Beverages	Soft drinks, coffees, teas, beers, and ales
Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
Confections	Desserts, candies, and sweet breads
Dairy Products	Cheeses
Grains/Cereals	Breads, crackers, pasta, and cereal
Meat/Poultry	Prepared meats

# QUESTION 19

Show contact\_name, address, city of all customers who are not from the following countries:  
'Germany', 'Mexico', 'Spain'

# TABLE

## customers

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	Western Europe	12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	Central America	05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	Central America	05023	Mexico	(5) 555-3932	NULL
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	British Isles	WA1 1DP	UK	(171) 555-7788	(171) 555-6750

# APPROACH

Step 1: get required columns

Step 2: use WHERE and NOT IN to filter  
based on given countries

# RESULT

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	Western Europe	12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	Central America	05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	Central America	05023	Mexico	(5) 555-3932	NULL
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	British Isles	WA1 1DP	UK	(171) 555-7788	(171) 555-6750



contact_name	address	city
Thomas Hardy	120 Hanover Sq.	London
Christina Berglund	Berguvsvägen 8	Luleå
Frédérique Citeaux	24, place Kléber	Strasbourg
Laurence Lebihan	12, rue des Bouchers	Marseille
Elizabeth Lincoln	23 Tsawassen Blvd.	Tsawassen
Victoria Ashworth	Fauntleroy Circus	London

# QUESTION 20

Show order\_date, shipped\_date,  
customer\_id, freight of all orders placed on  
2018 Feb 26

# TABLE

## orders

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10248	VINET	5	2016-07-04	2016-08-01	2016-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	Western Europe	51100	France
10249	TOMSP	6	2016-07-05	2016-08-16	2016-07-10	1	11.61	Toms Spezialitäten	Luisenstr. 48	Münster	Western Europe	44087	Germany
10250	HANAR	4	2016-07-08	2016-08-05	2016-07-12	2	65.83	Hanari Carnes	Rua do Paço, 67	Rio de Janeiro	South America	05454-876	Brazil

# APPROACH

Step 1: get required columns

Step 2: use WHERE to filter only orders  
placed on given date

# RESULT

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10248	VINET	5	2016-07-04	2016-08-01	2016-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	Western Europe	51100	France
10249	TOMSP	6	2016-07-05	2016-08-16	2016-07-10	1	11.61	Toms Spezialitäten	Luisenstr. 48	Münster	Western Europe	44087	Germany
10250	HANAR	4	2016-07-08	2016-08-05	2016-07-12	2	65.83	Hanari Carnes	Rua do Paço, 67	Rio de Janeiro	South America	05454-876	Brazil



order_date	shipped_date	customer_id	freight
2018-02-26	2018-03-06	REGGC	32.96
2018-02-26	2018-03-10	SANTG	53.05
2018-02-26	2018-03-04	WILMK	38.11
2018-02-26	2018-03-05	GODOS	38.19
2018-02-26	2018-03-18	HUNGO	580.91
2018-02-26	2018-03-04	QUEEN	33.05

# QUESTION 21

Show employee\_id, order\_id, customer\_id, required\_date, shipped\_date from all orders shipped later than required date

# TABLE

## orders

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10248	VINET	5	2016-07-04	2016-08-01	2016-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	Western Europe	51100	France
10249	TOMSP	6	2016-07-05	2016-08-16	2016-07-10	1	11.61	Toms Spezialitäten	Luisenstr. 48	Münster	Western Europe	44087	Germany
10250	HANAR	4	2016-07-08	2016-08-05	2016-07-12	2	65.83	Hanari Carnes	Rua do Paço, 67	Rio de Janeiro	South America	05454-876	Brazil

# APPROACH

Step 1: get required columns

Step 2: use WHERE to filter only orders that  
are shipped later than required date

# RESULT

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10262	RATTC	8	2016-07-22	2016-08-19	2016-07-25	3	48.29	Rattlesnake Canyon Grocery	2817 Milton Dr.	Albuquerque	North America	87110	USA
10263	ERNSH	9	2016-07-23	2016-08-20	2016-07-31	3	146.06	Ernst Handel	Kirchgasse 6	Graz	Western Europe	8010	Austria
10264	FOLKO	6	2016-07-24	2016-08-21	2016-08-23	3	3.67	Folk och fä HB	Åkergatan 24	Bräcke	Northern Europe	S-844 67	Sweden
10265	BLONP	2	2016-07-25	2016-08-22	2016-08-12	1	55.28	Blondel père et fils	24, place Kléber	Strasbourg	Western Europe	67000	France



employee_id	order_id	customer_id	required_date	shipped_date
6	10264	FOLKO	2016-08-21	2016-08-23
6	10271	SPLIR	2016-08-29	2016-08-30
2	10280	BERGS	2016-09-11	2016-09-12
4	10302	SUPRD	2016-10-08	2016-10-09
3	10309	HUNGO	2016-10-17	2016-10-23
5	10320	WARTH	2016-10-17	2016-10-18

# QUESTION 22

Show all even numbered order\_id from the orders table

# TABLE

## orders

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10248	VINET	5	2016-07-04	2016-08-01	2016-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	Western Europe	51100	France
10249	TOMSP	6	2016-07-05	2016-08-16	2016-07-10	1	11.61	Toms Spezialitäten	Luisenstr. 48	Münster	Western Europe	44087	Germany
10250	HANAR	4	2016-07-08	2016-08-05	2016-07-12	2	65.83	Hanari Carnes	Rua do Paço, 67	Rio de Janeiro	South America	05454-876	Brazil

# APPROACH

Step 1: get order\_id column

Step 2: use WHERE and % to filter only  
even numbered order\_id's

# RESULT

order_id	customer_id	employee_id	order_date	required_date	shipped_date	ship_via	freight	ship_name	ship_address	ship_city	ship_region	ship_postal_code	ship_country
10248	VINET	5	2016-07-04	2016-08-01	2016-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	Western Europe	51100	France
10249	TOMSP	6	2016-07-05	2016-08-16	2016-07-10	1	11.61	Toms Spezialitäten	Luisenstr. 48	Münster	Western Europe	44087	Germany
10250	HANAR	4	2016-07-08	2016-08-05	2016-07-12	2	65.83	Hanari Carnes	Rua do Paço, 67	Rio de Janeiro	South America	05454-876	Brazil



order_id
10248
10250
10252
10254
10256
10258

# QUESTION 23

Show city, company\_name, contact\_name  
of all customers from cities which contains  
the letter 'L' in the city name, sorted by  
contact\_name

# TABLE

## customers

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	Western Europe	12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	Central America	05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	Central America	05023	Mexico	(5) 555-3932	NULL
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	British Isles	WA1 1DP	UK	(171) 555-7788	(171) 555-6750

# APPROACH

Step 1: get required columns

Step 2: use WHERE and LIKE to filter cities  
which contains 'L' in their name

Step 3: use ORDER BY to sort by  
contact\_name

# RESULT

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	Central America	05022	Mexico	(5) 555-3392	(5) 555-7293
FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 92	Sao Paulo	South America	05442-030	Brazil	(11) 555-9857	NULL
FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184, chaussée de Tournai	Lille	Western Europe	59000	France	20.16.10.16	20.16.10.17



city	company_name	contact_name
Leipzig	Morgenstern Gesundkost	Alexander Feuer
Sao Paulo	Tradição Hipermercados	Anabela Domingues
London	Eastern Connection	Ann Devon
Toulouse	La maison d'Asie	Annette Roulet
Sao Paulo	Familia Arquibaldo	Aria Cruz
Lander	Split Rail Beer & Ale	Art Braunschweiger

# QUESTION 24

Show company\_name, contact\_name, fax  
of all customers who have a fax number  
(i.e. fax isn't NULL)

# TABLE

## customers

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	Western Europe	12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	Central America	05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	Central America	05023	Mexico	(5) 555-3932	NULL
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	British Isles	WA1 1DP	UK	(171) 555-7788	(171) 555-6750

# APPROACH

Step 1: get required columns

Step 2: use WHERE and IS NOT NULL to  
filter customers whose fax  
isn't NULL

# RESULT

customer_id	company_name	contact_name	contact_title	address	city	region	postal_code	country	phone	fax
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	Western Europe	12209	Germany	030-0074321	030-0076545
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222	México D.F.	Central America	05021	Mexico	(5) 555-4729	(5) 555-3745
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	Central America	05023	Mexico	(5) 555-3932	NULL
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	British Isles	WA1 1DP	UK	(171) 555-7788	(171) 555-6750



company_name	contact_name	fax
Alfreds Futterkiste	Maria Anders	030-0076545
Ana Trujillo Emparedados y helados	Ana Trujillo	(5) 555-3745
Around the Horn	Thomas Hardy	(171) 555-6750
Berglunds snabbköp	Christina Berglund	0921-12 34 67
Blauer See Delikatessen	Hanna Moos	0621-08924
Blondesddsl père et fils	Frédérique Citeaux	88.60.15.32

# QUESTION 25

Show first\_name, last\_name and hire\_date  
of the most recently hired employee

# TABLE

## employees

employee_id	last_name	first_name	title	title_of_courtesy	birth_date	hire_date	address	city	region	postal_code	country	home_phone	extension	reports_to
1	Davolio	Nancy	Sales Representative	Ms.	1968-12-08	2012-05-01	507 - 20th Ave. E.Apt. 2A	Seattle	North America	98122	USA	(206) 555-9857	5467	2
2	Fuller	Andrew	Vice President, Sales	Dr.	1972-02-19	2012-08-14	908 W. Capital Way	Tacoma	North America	98401	USA	(206) 555-9482	3457	NULL
3	Leverling	Janet	Sales Representative	Ms.	1983-08-30	2012-04-01	722 Moss Bay Blvd.	Kirkland	North America	98033	USA	(206) 555-3412	3355	2

# APPROACH

Step 1: get required columns

Step 2: use ORDER BY and DESC to  
sort based on descending order of  
hire\_date

Step 3: use LIMIT to display only certain  
no.of rows

# RESULT

employee_id	last_name	first_name	title	title_of_courtesy	birth_date	hire_date	address	city	region	postal_code	country	home_phone	extension	reports_to
7	King	Robert	Sales Representative	Mr.	1980-05-29	2014-01-02	Edgeham Hollow Winchester Way	London	British Isles	RG1 9SP	UK	(71) 555-5598	465	5
8	Callahan	Laura	Inside Sales Coordinator	Ms.	1978-01-09	2014-03-05	4726 - 11th Ave. N.E.	Seattle	North America	98105	USA	(206) 555-1189	2344	2
9	Dodsworth	Anne	Sales Representative	Ms.	1986-01-27	2014-11-15	7 Houndstooth Rd.	London	British Isles	WG2 7LT	UK	(71) 555-4444	452	5



first_name	last_name	hire_date
Anne	Dodsworth	2014-11-15

# BONUS QUESTION 1

Show average unit price rounded to 2 decimal places, total units in stock, total discontinued products from products table

# TABLE

## products

product_id	product_name	supplier_id	category_id	quantity_per_unit	unit_price	units_in_stock	units_on_order	reorder_level	discontinued
1	Chai	1	1	10 boxes x 20 bags	18	39	0	10	0
2	Chang	1	1	24 - 12 oz bottles	19	17	40	25	0
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10	13	70	25	0
4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	22	53	0	0	0
5	Chef Anton's Gumbo Mix	2	2	36 boxes	21.35	0	0	0	1

# APPROACH

Step 1: use ROUND(), AVG() to  
calculate average unit price

Step 2: use SUM() to calculate total  
units in stock

Step 3: create a subquery and use  
COUNT() to calculate total  
discontinued products

# RESULT

product_id	product_name	supplier_id	category_id	quantity_per_unit	unit_price	units_in_stock	units_on_order	reorder_level	discontinued
1	Chai	1	1	10 boxes x 20 bags	18	39	0	10	0
2	Chang	1	1	24 - 12 oz bottles	19	17	40	25	0
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10	13	70	25	0
4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	22	53	0	0	0
5	Chef Anton's Gumbo Mix	2	2	36 boxes	21.35	0	0	0	1



average unit price	total units in stock	total discontinued products
28.87	3119	8

---

# FOLLOW

for more such content!



Senthil Arul, Consultant