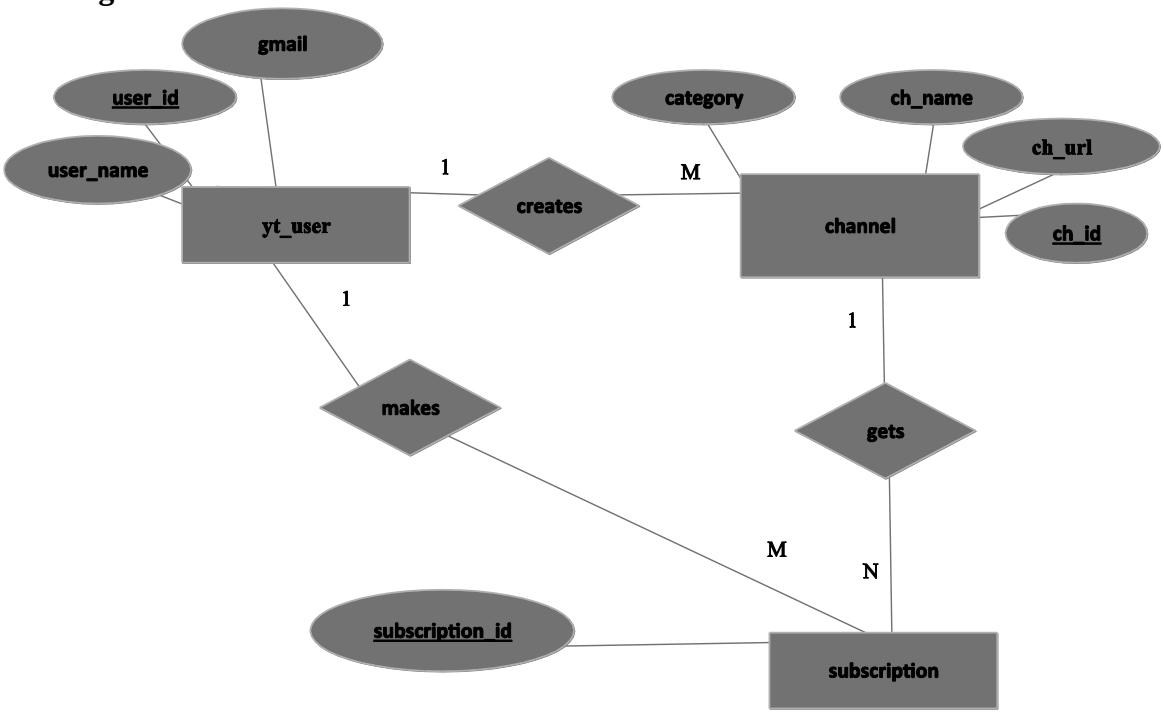
Lab 1- Assignment1 – SQL (7 marks) + (individual assessment 2 marks) = 9 marks

Here is the ER diagram of the Youtube database application explained in the first text book. Implement it by Sqldeveoper with the same data and try to write the queries to get the results shown for each query:

ER diagram



Creating Tables and populate data base

Creating yt_user (YouTube User Table),channel (Channel Table) and subscription (Subscription Table):

```
/* YouTube User Table*/
CREATE TABLE yt_user (
user_id INTEGER PRIMARY KEY,
user_name VARCHAR(100) NOT NULL,
gmail VARCHAR(100) NOT NULL);

/*Channel Table */
CREATE TABLE channel (
ch_id INTEGER PRIMARY KEY,
ch_name VARCHAR(64) NOT NULL UNIQUE,
ch_url VARCHAR(100),
ch_category VARCHAR(20),
user_id INTEGER REFERENCES yt_user(user_id));

/*Subscription Table*/
```

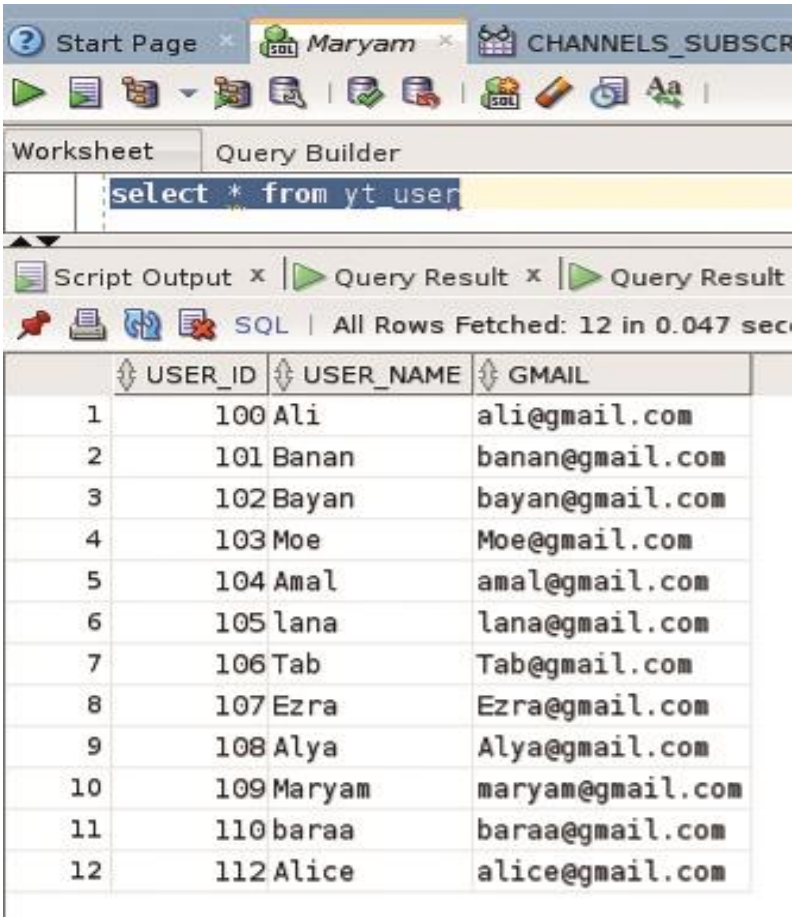
```
CREATE TABLE subscription (
subscription_id INTEGER PRIMARY KEY,
ch_id INTEGER REFERENCES channel(ch_id),
user_id INTEGER REFERENCES yt_user(user_id));
```

Inserting

YouTube Users Table

We have inserted twelve records into Users Table.

```
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (100, 'Ali', 'ali@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (101, 'Banan',
'banan@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (102, 'Bayan',
'bayan@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (103, 'Moe', 'Moe@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (104, 'Amal',
'amal@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (105, 'lana', 'lana@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (106, 'Tab', 'Tab@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (107, 'Ezra', 'Ezra@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (108, 'Alya', 'Alya@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (109, 'Maryam',
'maryam@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail)VALUES (110, 'baraa',
'baraa@gmail.com');
INSERT INTO yt_user (user_id, user_name, gmail) VALUES (112, 'Alice',
'alice@gmail.com');
```



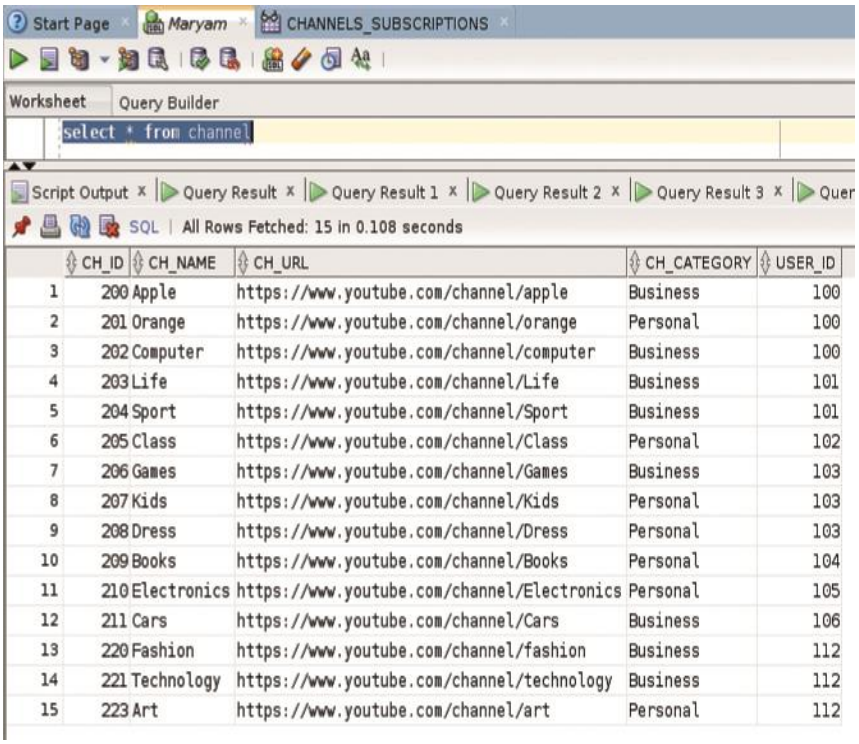
	USER_ID	USER_NAME	GMAIL
1	100	Ali	ali@gmail.com
2	101	Banan	banan@gmail.com
3	102	Bayan	bayan@gmail.com
4	103	Moe	Moe@gmail.com
5	104	Amal	amal@gmail.com
6	105	lana	lana@gmail.com
7	106	Tab	Tab@gmail.com
8	107	Ezra	Ezra@gmail.com
9	108	Alya	Alya@gmail.com
10	109	Maryam	maryam@gmail.com
11	110	baraa	baraa@gmail.com
12	112	Alice	alice@gmail.com

Channel Table

Inserting fifteen records into Channel Table.

INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (200, ‘Apple’,’https://www.youtube.com/channel/apple’, ‘Business’,100);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (201, ‘Orange’,’https://www.youtube.com/channel/orange’, ‘Personal’,100);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (202, ‘Computer’,’https://www.youtube.com/channel/computer’, ‘Business’,100);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (203, ‘Life’,’https://www.youtube.com/channel/Life’, ‘Business’,101);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (204, ‘Sport’,’https://www.youtube.com/channel/Sport’, ‘Business’,101);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (205, ‘Class’,’https://www.youtube.com/channel/Class’, ‘Personal’,102);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (206, ‘Games’,’https://www.youtube.com/channel/Games’, ‘Business’,103);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (207, ‘Kids’,’https://www.youtube.com/channel/Kids’, ‘Personal’,103);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (208, ‘Dress’,’https://www.youtube.com/channel/Dress’, ‘Personal’,103);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (209, ‘Books’,’https://www.youtube.com/channel/Books’, ‘Personal’,104);

INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (210, 'Electronics','https://www.youtube.com/channel/Electronics', 'Personal',105);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (211, 'Cars','https://www.youtube.com/channel/Cars', 'Business',106);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (220, 'Fashion','https://www.youtube.com/channel/fashion', 'Business',112);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (221, 'Technology','https://www.youtube.com/channel/technology', 'Business',112);
INSERT INTO channel (ch_id, ch_name, ch_url, ch_category, user_id) VALUES (223, 'Art','https://www.youtube.com/channel/art', 'Personal',112);

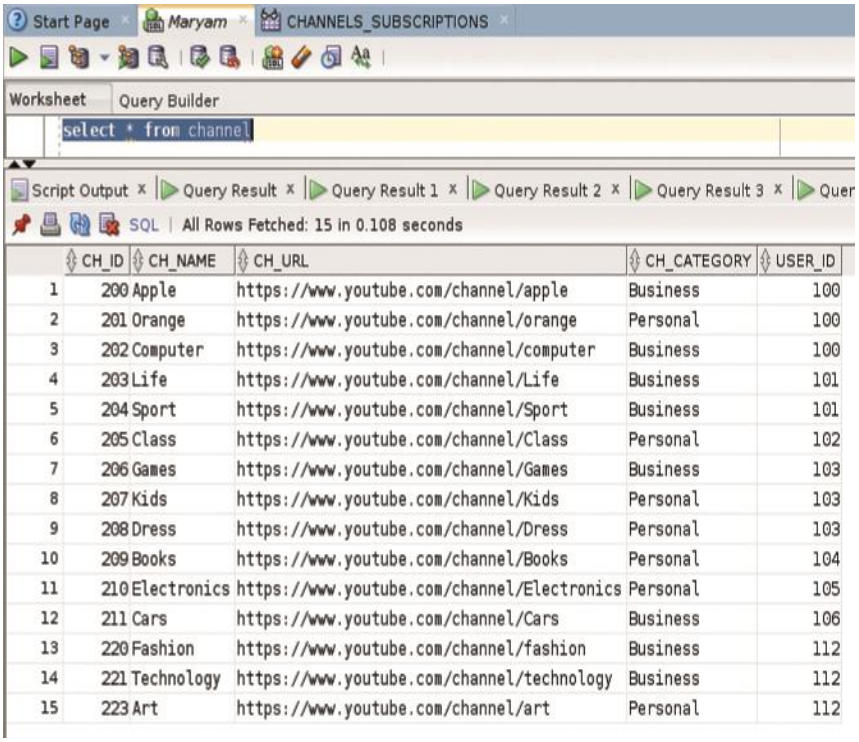


	CH_ID	CH_NAME	CH_URL	CH_CATEGORY	USER_ID
1	200	Apple	https://www.youtube.com/channel/apple	Business	100
2	201	Orange	https://www.youtube.com/channel/orange	Personal	100
3	202	Computer	https://www.youtube.com/channel/computer	Business	100
4	203	Life	https://www.youtube.com/channel/Life	Business	101
5	204	Sport	https://www.youtube.com/channel/Sport	Business	101
6	205	Class	https://www.youtube.com/channel/Class	Personal	102
7	206	Games	https://www.youtube.com/channel/Games	Business	103
8	207	Kids	https://www.youtube.com/channel/Kids	Personal	103
9	208	Dress	https://www.youtube.com/channel/Dress	Personal	103
10	209	Books	https://www.youtube.com/channel/Books	Personal	104
11	210	Electronics	https://www.youtube.com/channel/Electronics	Personal	105
12	211	Cars	https://www.youtube.com/channel/Cars	Business	106
13	220	Fashion	https://www.youtube.com/channel/fashion	Business	112
14	221	Technology	https://www.youtube.com/channel/technology	Business	112
15	223	Art	https://www.youtube.com/channel/art	Personal	112

Subscription Table

We have inserted 31 records into Channel Table. The below statement is an example:
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (300,201,100);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (301,202,100);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (302,200,101);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (303,202,101);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (304,200,102);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (305,200,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (306,201,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (307,202,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (308,203,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (309,204,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (310,205,104);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (311,206,104);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (312,207,105);

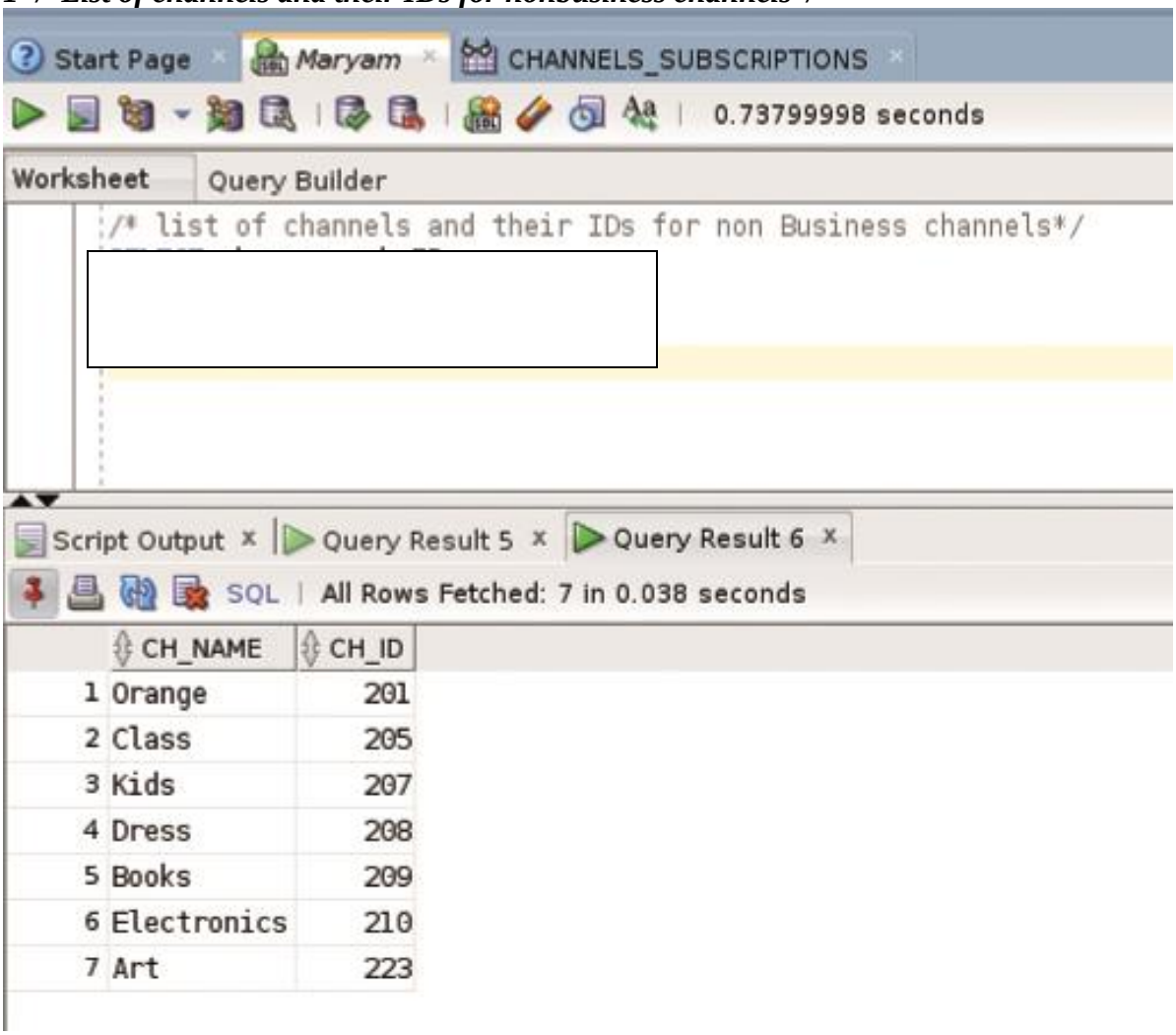
```
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (313,208,105);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (314,209,106);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (315,210,107);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (316,211,107);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (317,220,108);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (318,221,109);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (319,221,100);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (320,221,101);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (321,221,102);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (322,221,103);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (324,200,110);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (325,200,107);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (326,201,106);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (327,209,107);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (328,209,108);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (329,205,105);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (330,205,106);
INSERT INTO subscription (subscription_id, ch_id, user_id) VALUES (331,205,107);
```



	CH_ID	CH_NAME	CH_URL	CH_CATEGORY	USER_ID
1	200	Apple	https://www.youtube.com/channel/apple	Business	100
2	201	Orange	https://www.youtube.com/channel/orange	Personal	100
3	202	Computer	https://www.youtube.com/channel/computer	Business	100
4	203	Life	https://www.youtube.com/channel/Life	Business	101
5	204	Sport	https://www.youtube.com/channel/Sport	Business	101
6	205	Class	https://www.youtube.com/channel/Class	Personal	102
7	206	Games	https://www.youtube.com/channel/Games	Business	103
8	207	Kids	https://www.youtube.com/channel/Kids	Personal	103
9	208	Dress	https://www.youtube.com/channel/Dress	Personal	103
10	209	Books	https://www.youtube.com/channel/Books	Personal	104
11	210	Electronics	https://www.youtube.com/channel/Electronics	Personal	105
12	211	Cars	https://www.youtube.com/channel/Cars	Business	106
13	220	Fashion	https://www.youtube.com/channel/fashion	Business	112
14	221	Technology	https://www.youtube.com/channel/technology	Business	112
15	223	Art	https://www.youtube.com/channel/art	Personal	112

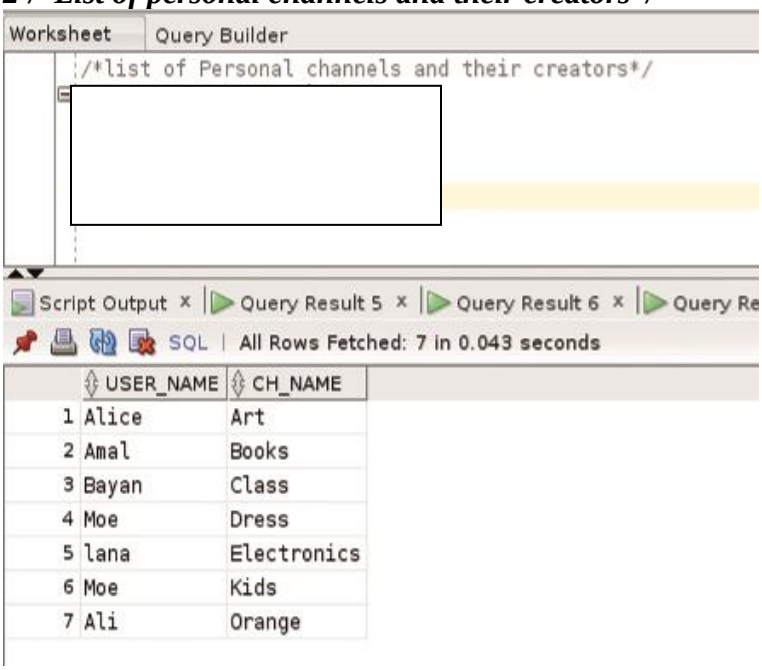
Queries (in total 7 marks – each query 1 mark)

1- /*List of channels and their IDs for nonbusiness channels*/



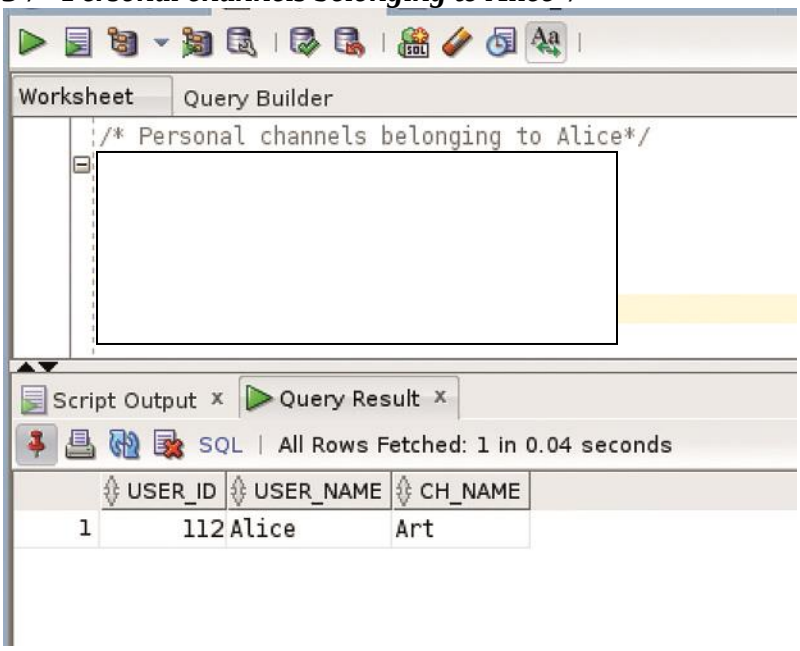
	CH_NAME	CH_ID
1	Orange	201
2	Class	205
3	Kids	207
4	Dress	208
5	Books	209
6	Electronics	210
7	Art	223

2-/*List of personal channels and their creators*/



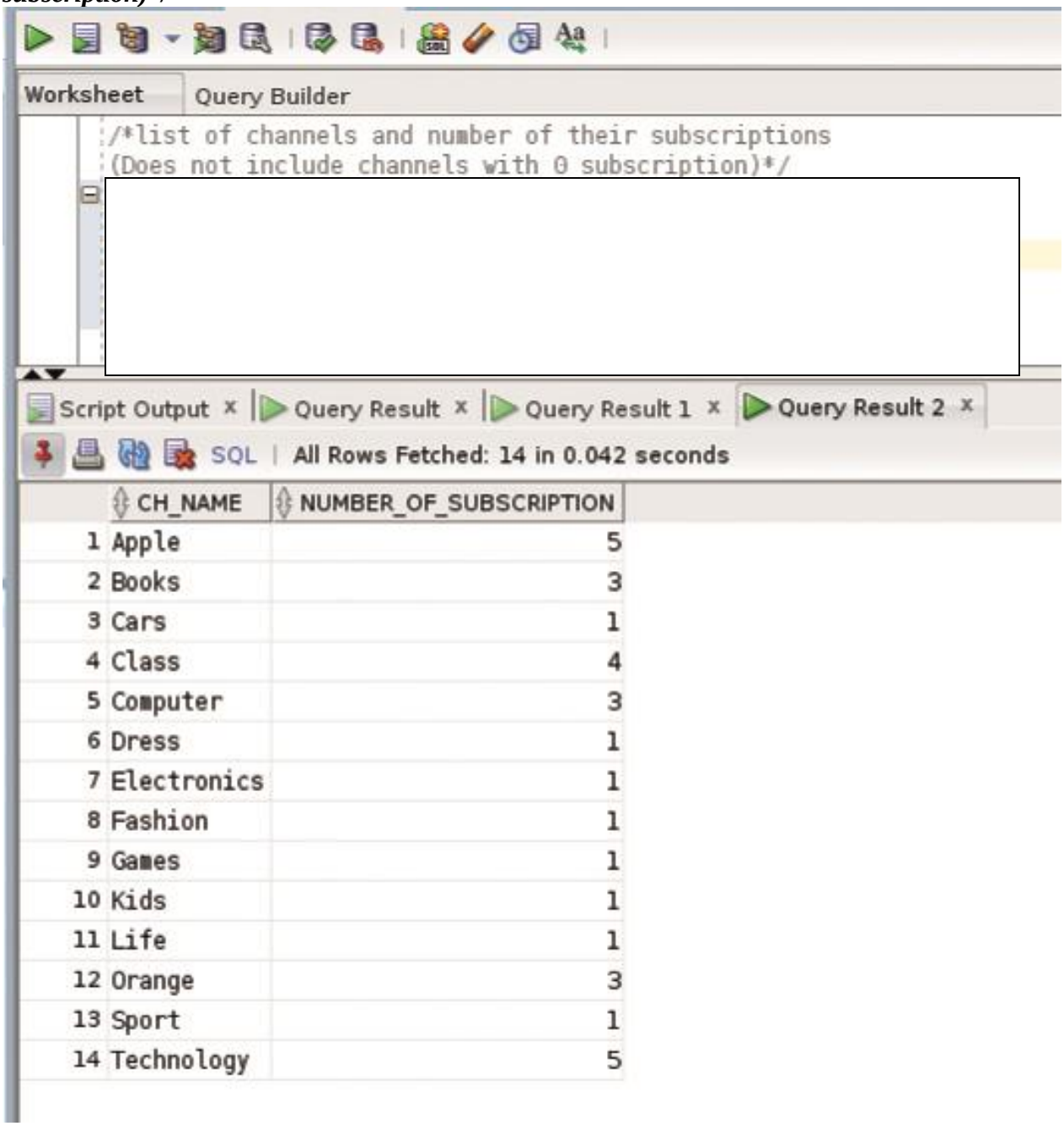
	USER_NAME	CH_NAME
1	Alice	Art
2	Amal	Books
3	Bayan	Class
4	Moe	Dress
5	lana	Electronics
6	Moe	Kids
7	Ali	Orange

3-/* Personal channels belonging to Alice*/



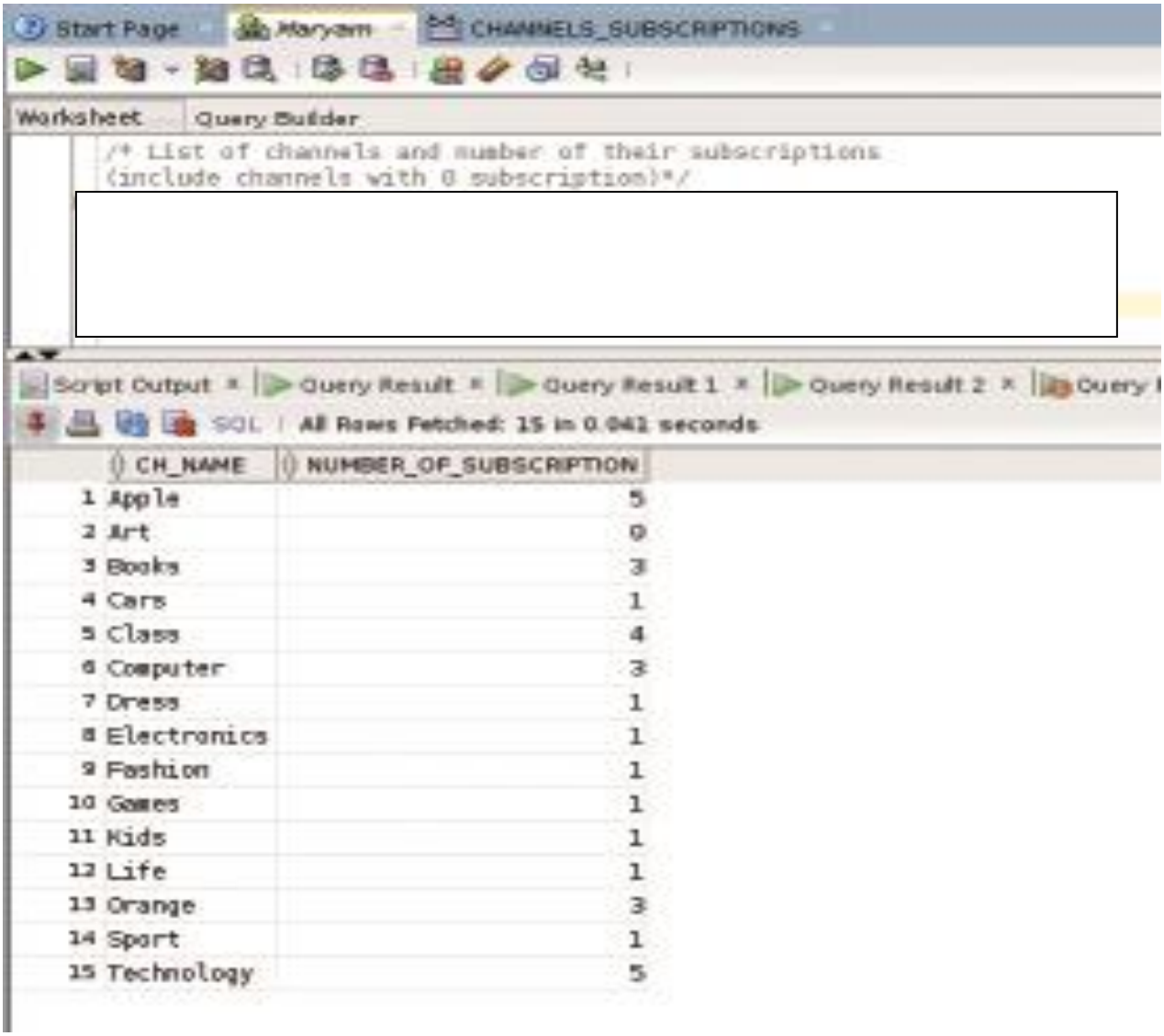
	USER_ID	USER_NAME	CH_NAME
1	112	Alice	Art

4-/*List of channels and number of their subscriptions (does not include channels with zero subscription)*/



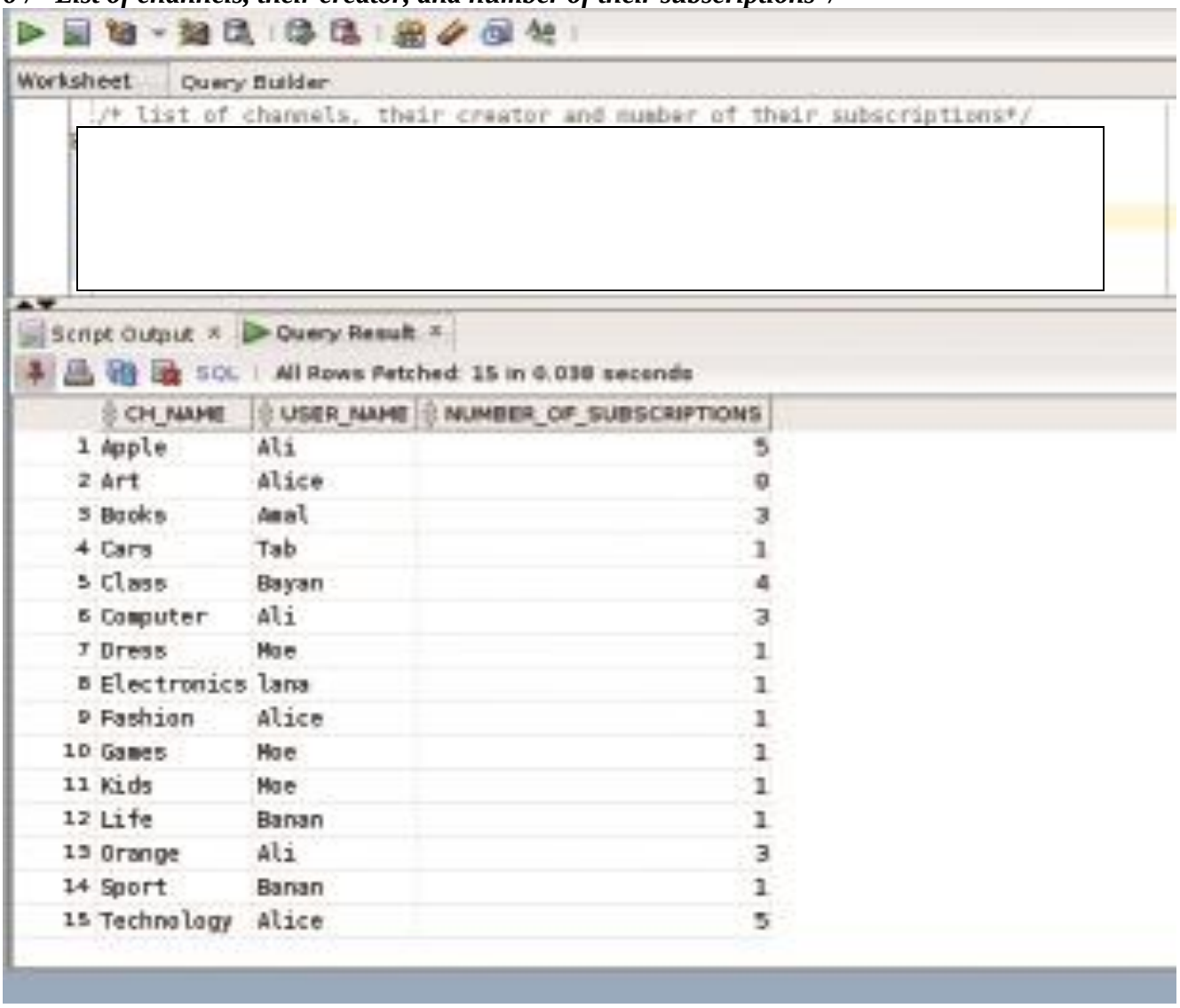
	CH_NAME	NUMBER_OF_SUBSCRIPTION
1	Apple	5
2	Books	3
3	Cars	1
4	Class	4
5	Computer	3
6	Dress	1
7	Electronics	1
8	Fashion	1
9	Games	1
10	Kids	1
11	Life	1
12	Orange	3
13	Sport	1
14	Technology	5

5-/* List of channels and number of their subscriptions (include channels with zero subscription)*/



	CH_NAME	NUMBER_OF_SUBSCRIPTION
1	Apple	5
2	Art	0
3	Books	3
4	Cars	1
5	Class	4
6	Computer	3
7	Dress	1
8	Electronics	1
9	Fashion	1
10	Games	1
11	Kids	1
12	Life	1
13	Orange	3
14	Sport	1
15	Technology	5

6-/* List of channels, their creator, and number of their subscriptions*/



	CH_NAME	USER_NAME	NUMBER_OF_SUBSCRIPTIONS
1	Apple	Ali	5
2	Art	Alice	0
3	Books	Amal	3
4	Cars	Tab	1
5	Class	Bayan	4
6	Computer	Ali	3
7	Dress	Moe	1
8	Electronics	lana	1
9	Fashion	Alice	1
10	Games	Moe	1
11	Kids	Moe	1
12	Life	Banan	1
13	Orange	Ali	3
14	Sport	Banan	1
15	Technology	Alice	5

7- /*The total number of subscriptions*/