



CPSC 304 Project Cover Page

Milestone #: 5

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Group Number: 61

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

1. Short Description of Final Project:

- a. Our project aimed to model a relational database system for a social media platform. Our GUI allows users to input values as a User with user attributes and make Posts with post attributes. Our database schema included tables for users, posts, comments, and hashtags and much more. We populated the database with sample data to allow for queries. Our GUI allows for users to insert, update and delete posts as well as perform powerful nested queries, queries with aggregation + group by, and many other queries.

How our final schema changed

- a. our User table changed
 - i. User(userID, gender, fullName, age, birthdate, generation);

We added in ‘generation’ attribute to better characterize our Users and make more meaningful Group by queries.

Schema and Screenshots of populated tables

- NotificationsSend(PostLink, text, time, **storyID**)

```
SQL> select * from NotificationsSend
2 ;
POSTLINK          TEXT
TIME
STORYID
https://postlink1   text1
01-DEC-23 12.00.01.000000 AM
1234
https://postlink2   text2
01-SEP-23 12.00.01.000000 PM
2235
POSTLINK          TEXT
TIME
STORYID
https://postlink2   text2
01-DEC-24 12.00.01.000000 AM
5534
SQL>
```

- User(userID, gender, fullName, age, birthdate, generation);

We added in ‘generation’ attribute to better characterize our data.

- StoriesShare(storyID, duration, URL, **userName**, **userID**)

STORYID	DURATION	URL	USERNAME	USERID
1234	04-APR-24	http::1	Emily Davis	1111
2235	04-JUL-24	http::2	Emily Davis	1111
5534	01-APR-24	http::3	Emily Davis	1111

- Reel(text, length, postID, location, postDate)

```
SQL> select * from Reel
2 ;
TEXT          LENGTH    POSTID LOCATION      POSTDATE
text1           20       11111 toronto 01-APR-24
text1           78       22222 toronto 01-MAY-23
text1           90       44444 toronto 01-SEP-24
```

- FeedPost(text, numImage, postID, location, postDate)

```
SQL> select * from FeedPost
2 ;
TEXT          NUMIMAGE    POSTID LOCATION      POSTDATE
text1            3         782 Victoria 01-SEP-16
text1            7        3267 Mexico   01-SEP-19
text1            9        2783 Pender Island 01-SEP-20
SQL>
```

- Hashtags(hashID, hashName)

```
SQL> select * from hashtag
2 ;
HASHID HASHNAME
1 travel
2 food
3 nature
SQL>
```

- HashtagHasPost(hashID , postID)

```

SQL> select * from HashtagHasPost
2 ;
-----+
 HASHID | POSTID
-----+
 1      | 2002
 2      | 2003
 3      | 2004
-----+
SQL>

```

8. LikesDoubleTapHas(likeID, numLikes, date, **postID**, **userName**, **userID**, **commentID**)

```

SQL> Select * FROM LikesDoubletapHas;
-----+
 LIKEID | NUMLIKES | LIKE_DATE | POSTID | USERID | COMMENTID
-----+
 11     |      10   | 04-APR-24 | 2002  | 1111   | 101
 22     |      15   | 05-APR-24 | 2003  | 2222   | 102
 33     |      20   | 06-APR-24 | 2004  | 3333   | 103
-----+
SQL>

```

9. PublishPosts(**PostID**, location, post_date, **userName**, **userID**)

```

SQL> select * from PublishPosts
2 ;
-----+
 POSTID | LOCATION | POSTDATE | USERNAME | USERID
-----+
 2007  | Vancouver | 04-APR-24 | User1    | 1111
 2008  | Toronto  | 05-APR-24 | User2    | 2222
 2009  | Calgary  | 06-APR-24 | User3    | 3333
-----+
SQL>

```

10. MakeComments(text, commentID, date, **userName**, **userID**) // we need to include userName, userID since both of them are our primary key

```

SQL> select * from MakeComments
2 ;
-----+
 TEXT | COMMENTID | COMMENTDATE | USERNAME | USERID
-----+
 Great post! | 101 | 04-APR-24 | user1    | 1111
 Nice!       | 102 | 05-APR-24 | user2    | 2222
 Beautiful!  | 103 | 06-APR-24 | user3    | 3333
-----+
SQL>

```

11. Contain(commentID, **postID**)

```

SQL> select * from Contain
2 ;
-----+
 COMMENTID | POSTID
-----+
 101      | 2002
 102      | 2003
 103      | 2004
-----+
SQL>

```

12. AccountOwns(userName, displayName, numFollowing, numFollowers, numPosts, **userID**)

```

SQL> select * from accountOwns
2 ;
-----+
 USERNAME
-----+
 DISPLAYNAME
-----+
 NUMFOLLOWING | NUMFOLLOWERS | NUMPOSTS | USERID
-----+
 user1         | 100          | 50      | 1111
 User One
-----+
 user2         | 150          | 70      | 2222
 User Two
-----+
 USERNAME
-----+
 DISPLAYNAME
-----+
 NUMFOLLOWING | NUMFOLLOWERS | NUMPOSTS | USERID
-----+
 user3         | 200          | 90      | 3333
 User Three
-----+
SQL>

```

A list of all SQL queries used and where it can be found in the code

Functionality	File Name (instagram.php for all) and Line Number
Insert	line 792 for insert user, line 820 for insert post
Delete	line 644
Update	line 575
Selection	line 1034
Projection	line 854
Join	line 1058
Aggregation with group by	line 974
Aggregation with having	line 947
Nested aggregation with group by	line 974
Division	line 1092

Screenshots of all our functionality:

INSERTION USER Query

Create Users

If this is your first time using the database, please identify yourself by creating a user

User ID (INT): Gender: Generation: Name: Age:

Birthdate:

Before

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

After

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1414	F	Z	Jason Deng	20	14-APR-04
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

INSERTION Post Query:

Insert Post

Create a Post for a user by specifying the values below

Post ID (INT): Location: Postdate: User ID (INT):

Before:

'

Retrieved data from table Posts:

PostID	Location	PostDate	UserID
2001	Vancouver	05-DEC-23	2222
2002	Vancouver	04-APR-24	2222
2003	Vancouver	04-APR-24	3333
2004	Toronto	04-APR-24	2222
2005	Calgary	04-APR-24	4444
2006	Calgary	04-AUG-24	4444

After:

Retrieved data from table Posts:

PostID	Location	PostDate	UserID
4141	Toronto	13-MAR-24	1414
2001	Vancouver	05-DEC-23	2222
2002	Vancouver	04-APR-24	2222
2003	Vancouver	04-APR-24	3333
2004	Toronto	04-APR-24	2222
2005	Calgary	04-APR-24	4444
2006	Calgary	04-AUG-24	4444

DELETE User Query

Delete Users

Enter UserID to delete.

UserID:

Delete

Before

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1414	F	Z	Jason Deng	20	14-APR-04
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

After

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

UPDATE Query

Update Location in Posts

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

PostID:

New Location:

UpdatePost

Before

Retrieved data from table Posts:

PostID	Location	PostDate	UserID
2001	Calgary	05-DEC-23	2222
2002	Vancouver	04-APR-24	2222
2003	Vancouver	04-APR-24	3333
2004	Toronto	04-APR-24	2222
2005	Calgary	04-APR-24	4444
2006	Calgary	04-AUG-24	4444

After

Retrieved data from table Posts:

PostID	Location	PostDate	UserID
2001	Vancouver	05-DEC-23	2222
2002	Vancouver	04-APR-24	2222
2003	Vancouver	04-APR-24	3333
2004	Toronto	04-APR-24	2222
2005	Vancouver	04-APR-24	4444
2006	Calgary	04-AUG-24	4444

SELECTION Query

Selection in User

Please specify the conditions you want to use

For example, age > ..., fullName = 'name you want to search', userID = "", generation = '...', birthdate = '...'

Condition:

Select

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
2222	F	Millenial	Zoey Ma	19	19-APR-04
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

PROJECTION Query

Projection in User

Please select the attributes you want to display

User Id:
Gender:
Generation:
Name:
Age:
Birthdate:

Project

Before:

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

After:

Retrieved data from table Users:

FullName	Birthdate
Emily Davis	19-FEB-88
Siri	19-JUN-02
Jessie	19-FEB-06
Zoey Ma	19-APR-04
Siri	05-JUL-05
Travis Scott	19-FEB-95
Small Child	19-FEB-12

Aggregation with group by Query

We are operating on our pre-populated table:

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

Count the Number of Users in Each Generation (Aggregation + Group by)

提交

Generation: Alpha – User Count: 2

Generation: Boomer – User Count: 2

Generation: Millenial – User Count: 2

Generation: Z – User Count: 1

Aggregation + Having Query

Pre-populated table:

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

Display Users That Have Posted At Least Twice At Any Location (Aggregation + Having)

提交

Generation: Alpha – User Count: 2

Generation: Boomer – User Count: 2

Generation: Millenial – User Count: 2

Generation: Z – User Count: 1

Nested Aggregation Query

Prepopulated table:

Retrieved data from table Users:

UserID	Gender	Generation	FullName	Age	Birthdate
1111	F	Boomer	Emily Davis	35	19-FEB-88
4444	M	Boomer	Siri	22	19-JUN-02
5555	M	Alpha	Jessie	17	19-FEB-06
2222	F	Millenial	Zoey Ma	19	19-APR-04
3333	M	Z	Siri	18	05-JUL-05
6666	M	Millenial	Travis Scott	35	19-FEB-95
7777	M	Alpha	Small Child	35	19-FEB-12

Find the Youngest Person in Each Generation

提交

Generation: Boomer – Name: Siri – Age: 22

Generation: Alpha – Name: Jessie – Age: 17

Generation: Millenial – Name: Zoey Ma – Age: 19

Generation: Z – Name: Siri – Age: 18

Division

Prepopulated table:

Retrieved data from table Posts:

PostID	Location	PostDate	UserID
2001	Vancouver	05-DEC-23	2222
2002	Vancouver	04-APR-24	2222
2003	Vancouver	04-APR-24	3333
2004	Toronto	04-APR-24	2222
2005	Calgary	04-APR-24	4444
2006	Calgary	04-AUG-24	4444

Find the userID that make all the post in Toronto

提交

UserID: 2222