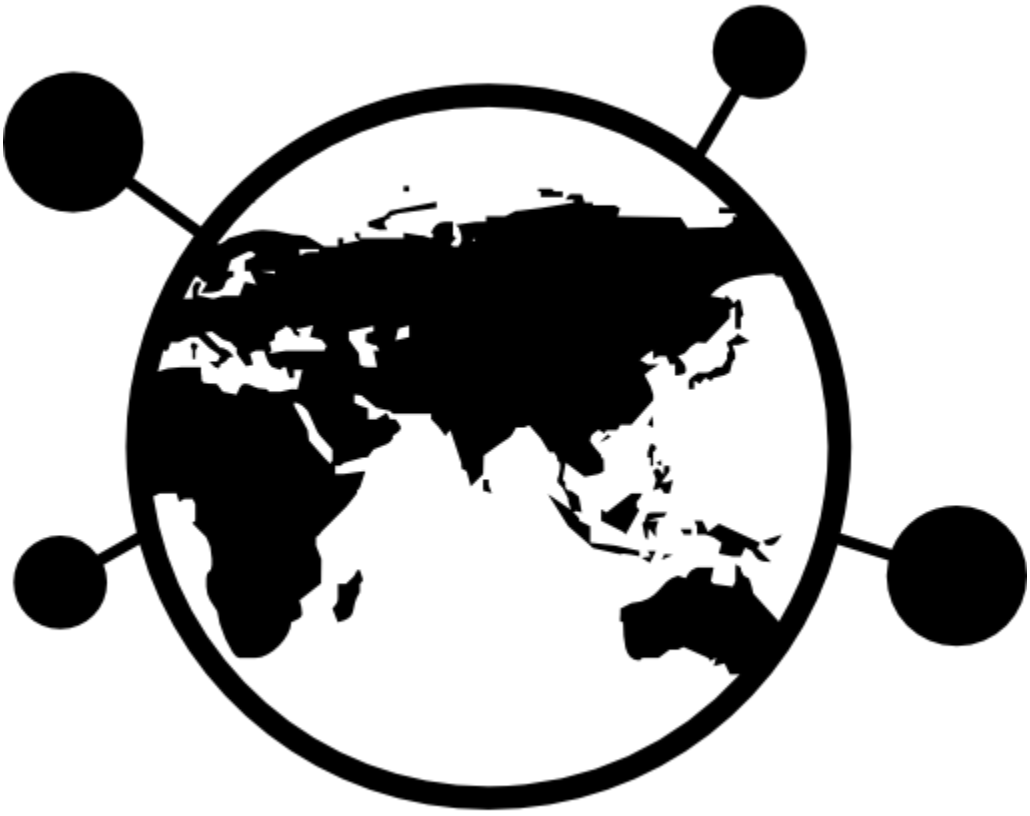
Team 4: Design Project

Around the World

Version 1.0.0
11/2/2021



SJSU Dept. of Computer Science

CS 157A • Dr. Mike Wu • Team 4

Anni Shao and Victor Martinez Zarate

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1 Introduction

Goal: This web application aims to be an online travel journal for its users that focuses on travel and experiences through simplicity of the UI.

Motivation: People can always buy their own paper world map and put physical pins in the places they've traveled to around the world, but how can we make this experience more interactive and shareable to other travel enthusiasts?

Innovative Idea: Introducing **Around the World**, an online travel journal that helps users visually track the places they've been to across the globe. In each of the locations the user wants to post to their profile, they can add pictures, write a bio, and rate their experience travelling there. There is also a social aspect to the app since users can follow and be followed by other users.

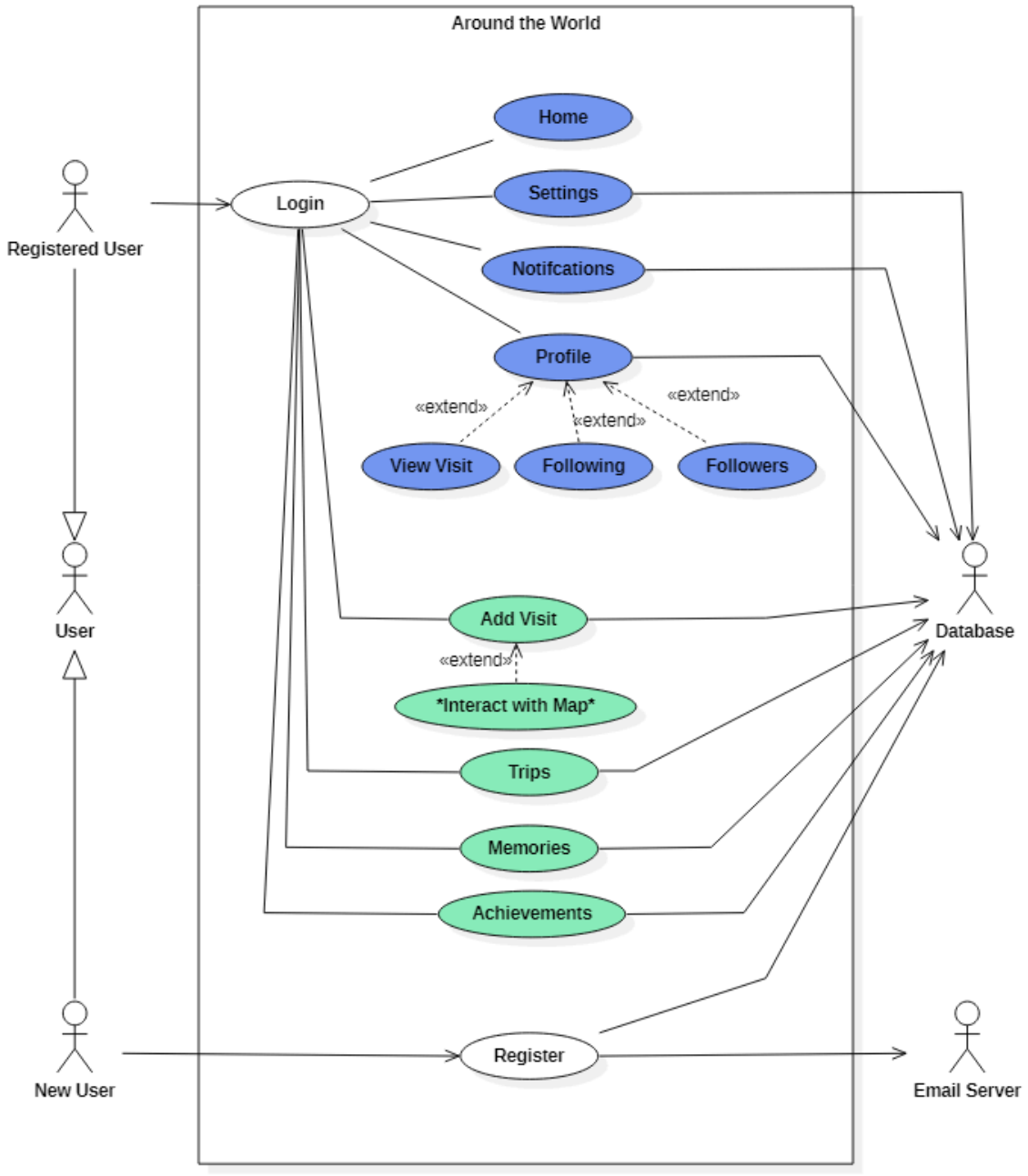
Stakeholders: Dr. Mike is the project manager, while Anni, Victor, and Richard are the developers of the project. Any individual interested in using Around the World would be the users.

Application Domain: Around the World is an application to track travel experiences and to connect its users in a meaningful way online.

Benefits to Users: Similar to the motivation, creating a platform where users can focus on their travels and experiences without the clutter may provide a more positive experience than can be found on current social media.

2 Functional Requirements

2.1 Users and Interactions



2.2 Functions, Features, Functional Processes, and I/O

Functions: We will define functions to be "hows" that the developers would use to define how the application handles.

- Account registration/login
- Data filtering and sorting options
- (TBD) Location search functionality
- (TBD) Pre-existing social media integration for account registration

Features: We will define features to be the "selling points" of the application that the sales team might use to market the product.

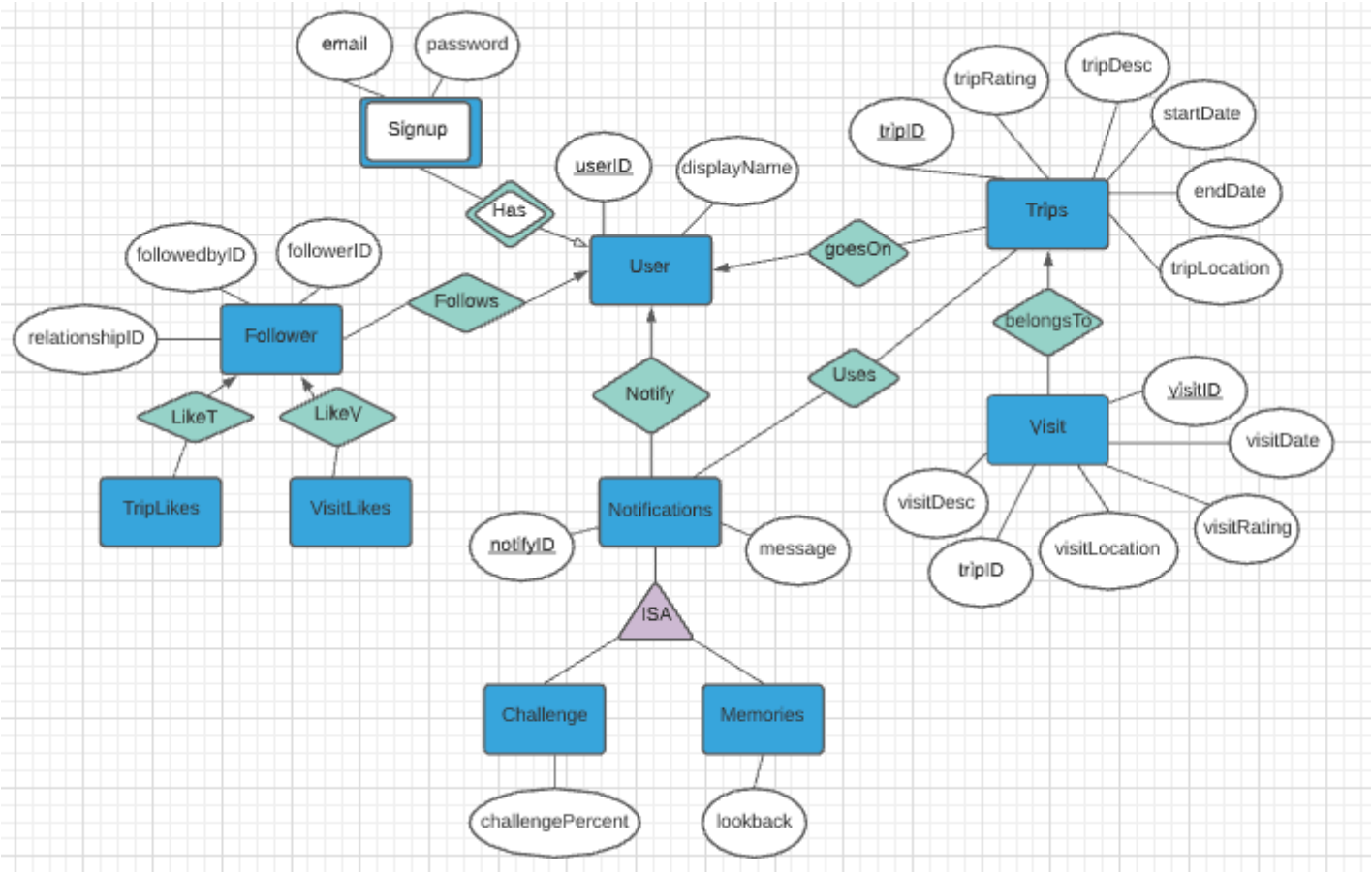
- User profiles
    - The main feature of Around the World. This is where user's will be able to view and show off their travels.
- Following/followers/profile viewing (Social Media)
- (TBD) Like and comment system
- Document and journal visits & trips
    - Ability to rate past visits to locations, as well as adding photos, journaling, and adding visits to collections called trips.
    - Visits and trips can be viewed dynamically through a map on the user's main page.
- Memories function

    - Weekly/Yearly/On special occasions, Around the World will notify you of past trips that you have taken so that you can reminisce about your previous visits and experiences
- (TBD) Achievements & Challenges
    - On implementation, achievements and challenges will be a way to incentivize users to travel through medals and accolades collected by meeting certain milestones.
    - These medals could be used to accessorize a user's profile page, or as means to encourage a user to travel to a certain location.

Functional Processes: Around the World has one primary type of "user" with a similar primary process. The user's process will involve simply logging into their account so that they can easily post, journal, and make updates to their account so that others can see. As the developers of Around the World, our primary processes include maintaining database integrity, keeping the GUI updated, and utilizing the data collected from our users to make effective business decisions that could lead to increased profits through data analytics.

I/O: All input for Around the World should be through the web app/GUI provided. Outputs may take the form of notifications to user accounts directly on the web app itself, or through push email or text notifications. Other methods of input and output may change in the future as requirements change.

3 ERD Diagram



4 Entity Set and Relationships

1. **User Entity Set**

   The User Entity set is utilized to keep track of Users who have successfully created an account. They will be tracked with the primary key, ID.

   Relationships:

   - A User "has" Signup information. This is a one-one relationship since each set of signup information is related to one user.
   - A User "follows" a Follower. We have a one-many relationship since one user can follow many users.
   - A User "goes on" a Trip. This is a one-many relationship where one user can create many trips.
   - A User is "notified" by a notification. This is a one-many relationship where one user can be notified by many notifications.

   Attributes:

   - userID (primary key)
   - displayName

2. **Signup Entity Set**

   The Signup Entity Set is a weak entity set that relies on User.

   Relationships:

   - A User "has" Signup information. This is a one-one relationship since each set of signup information is related to one user.

   Attributes:

- userID (primary key inherited from User)
- email
- password

3. **Follower Entity Set**

   Relationships:

   - A Follower is "followed by" a User. This is a one-many relationship since one follower can be followed by many users.
   - A Follower can "like" another User's trip.
   - A Follower can "like" another User's visit.

   Attributes:

   - relationshipID (primary key)
   - followerID
   - followedbyID

4. **VisitLikes Entity Set**

   Relationships:

   - A visit can be liked by a user. This is a many to many relationship because many users can like many visits.

   Attributes:

   - userID
   - visitID

5. **TripLikes Entity Set**

   Relationships:

- A trip can be liked by a user. This is a many to many relationship because many users can like many trips.

Attributes:

- userID
- tripID

6. **Trip Entity Set**

Relationships:

- A Trip has been "gone on" by a User. This is a many-one relationship where one user can go on many trips.
- A Trip "uses" a Notification. This is a one-many relationship where one trip can create many notifications.
- A Trip "has" Visits.

Attributes:

- tripID (primary key)
- startDate
- endDate
- tripLocation
- tripDesc
- tripRating

7. **Visit Entity Set**

Relationships:

- A Visit "belongs to" a Trip.

Attributes:

- visitID (primary key)
- tripID
- visitDate
- visitLocation
- visitDesc
- visitRating

8. Notification Entity Set

Relationships:

- A Notification "notifies" a User by trip/visit/challenge/follower or memories.
- A Notification "is created by" a trip/visit/challenge/follower or memories. This is a one-many relationship where many trips/visits/challenges/followers can create one notification.
- A Notification is a superclass of Challenge and Memories.

Attributes:

- notifyID (Primary Key)
- message

9. Challenge Entity Set

Relationships:

- A challenge is a subclass of Notification. When a challenge is completed, the user can be notified.

Attributes:

- notifyID (primary key inherited from Notifications)
- challengePercent

10. Memories Entity Set

Relationships:

- Memories is a subclass of Notification. When there is a memory to look back at, the user can be notified.

Attributes:

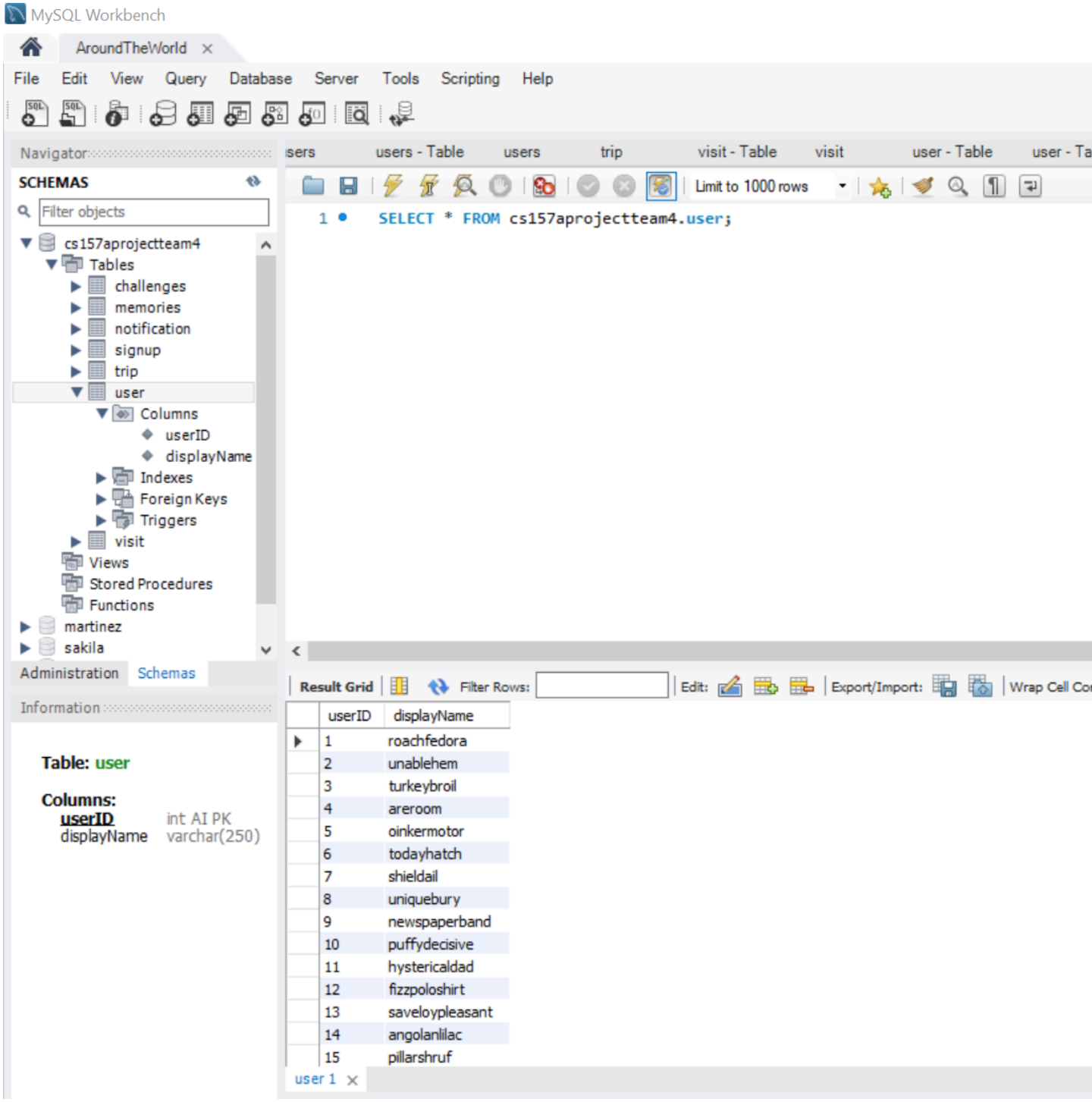
- notifyID (primary key inherited from Notifications)
- lookback

5 ERD Schemas

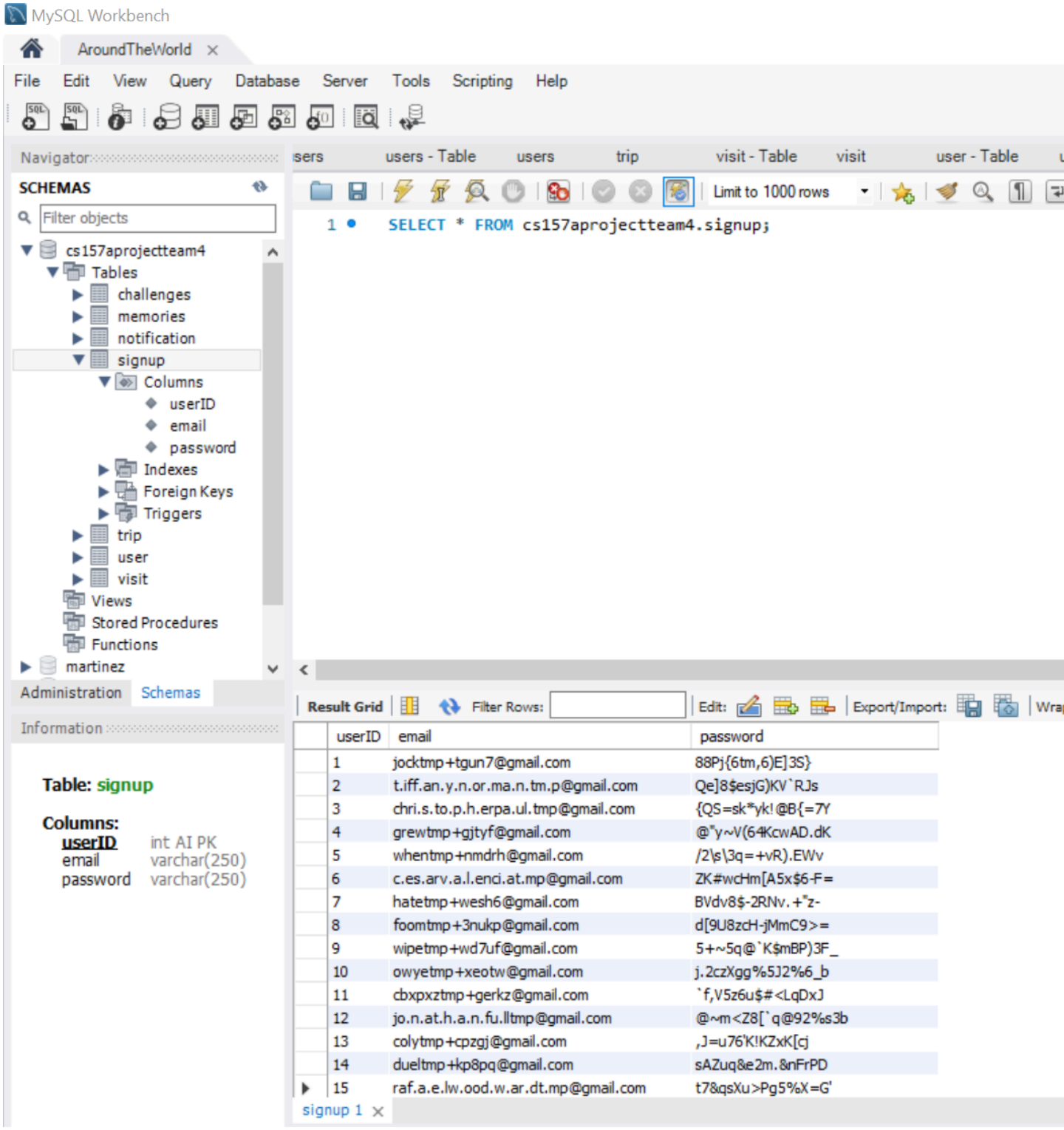
1. User(userID, displayName)
2. Signup(userID, email, password)
3. Follower(relationshipID, followerID, followedbyID)
4. VisitLikes(userID, visitID)
5. TripLikes(userID, tripID)
6. Trip(tripID, startDate, endDate, tripLocation, tripDescription?, tripRating?, userID)
7. Visit(visitID, tripID, visitDate, visitLocation, visitDescription?, tripRating?)
8. Challenge(notifyID, challengePercent)
9. Notification(notifyID, message, userID)
10. Memories(notifyID, lookback)
11. GoesOn(userID, tripID)
12. belongsTo(visitID, tripID)
13. LikeT(followerID, followeeID, tripID)
14. LikeV(followerID, followeeID, visitID)
15. Uses(tripID/visitID/challengeID/user, notifyID)
16. Notifies(userID, notifyID)
17. Follows(userID, relationshipID)

6 MySQL Workbench Content

User



Signup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Foreign Keys
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user
visit
Views
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Information
Table: signup
Columns:
userID int AI PK
email varchar(250)
password varchar(250)
users - Table
users
trip
visit - Table
visit
user - Table
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.signup;
Result Grid
Filter Rows:
Edit:
Export/Import:
userID email password
1 jocktmp+tgun7@gmail.com 88Pj{6tm,6)E]3S}
2 t.iff.an.y.n.or.ma.n.tm.p@gmail.com Qe]8$esjG)KV`RJs
3 chri.s.to.p.h.erpa.ul.tmp@gmail.com {QS=sk*yk!@B{=7Y
4 grewtmp+gjtyf@gmail.com @"y~V(64KcwAD.dK
5 whentmp+nmdrh@gmail.com /2\s\3q=+vR).EWv
6 c.es.arv.a.l.enci.at.mp@gmail.com ZK#wcHm[A5x$6-F=
7 hatetmp+wesh6@gmail.com BVdv8$-2RNv.+"z-
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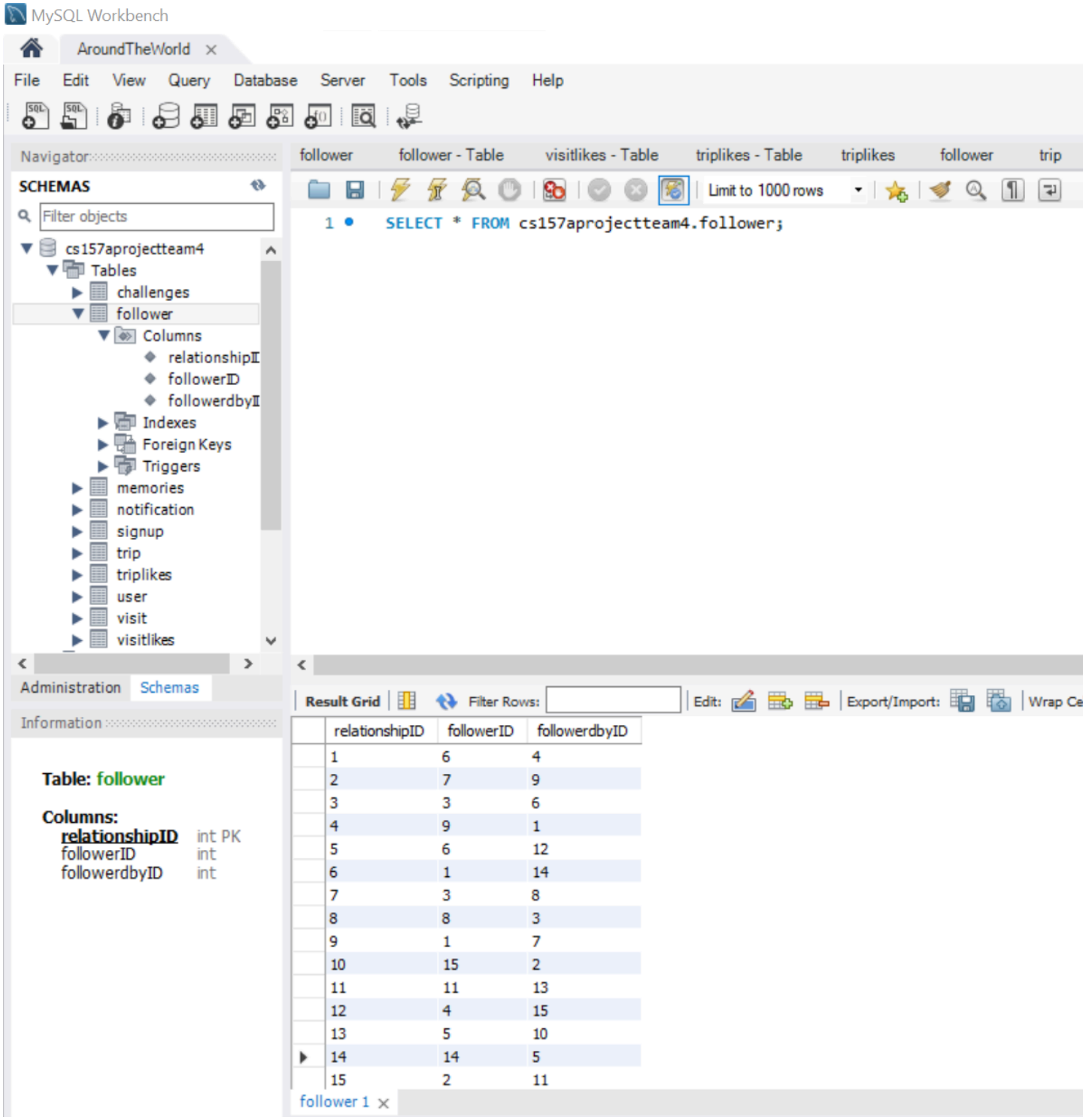
14 dueltmp+kp8pq@gmail.com sAZuq&e2m.&nFrPD
15 raf.a.e.lw.ood.w.ar.dt.mp@gmail.com t7&qsXu>Pg5%X=G'
signup 1

Follower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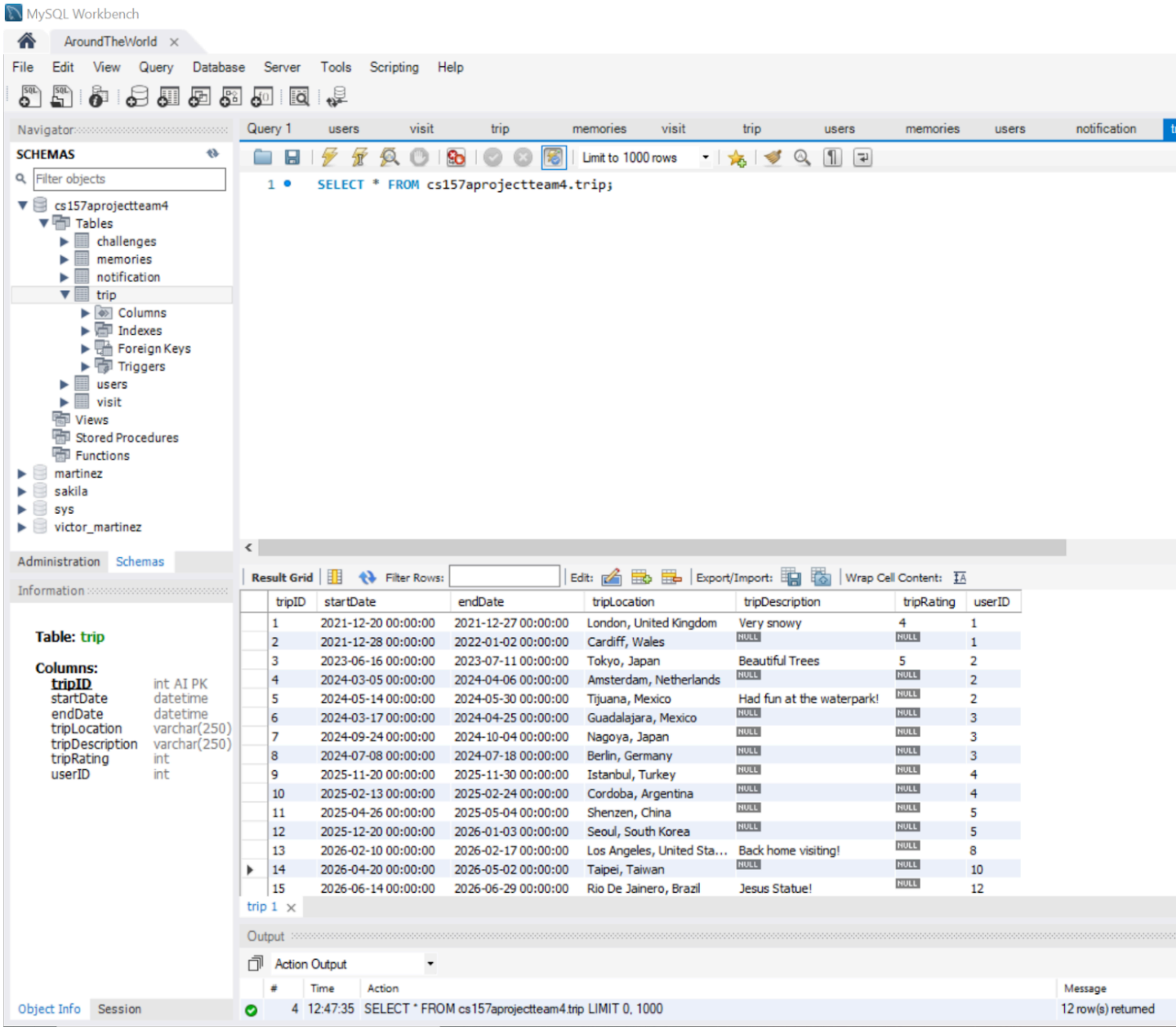
Information
Table: follower
Columns:
relationshipID int PK
followerID int
followerdbyID int
follower follower - Table visitlikes - Table triplikes - Table triplikes follower trip
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.follower;
Result Grid Filter Rows: Edit: Export/Import: Wrap Ce
relationshipID followerID followerdbyID
1 6 4
2 7 9
3 3 6
4 9 1
5 6 12
6 1 14
7 3 8
8 8 3
9 1 7
10 15 2
11 11 13
12 4 15
13 5 10
14 14 5
15 2 11
follower 1

Trip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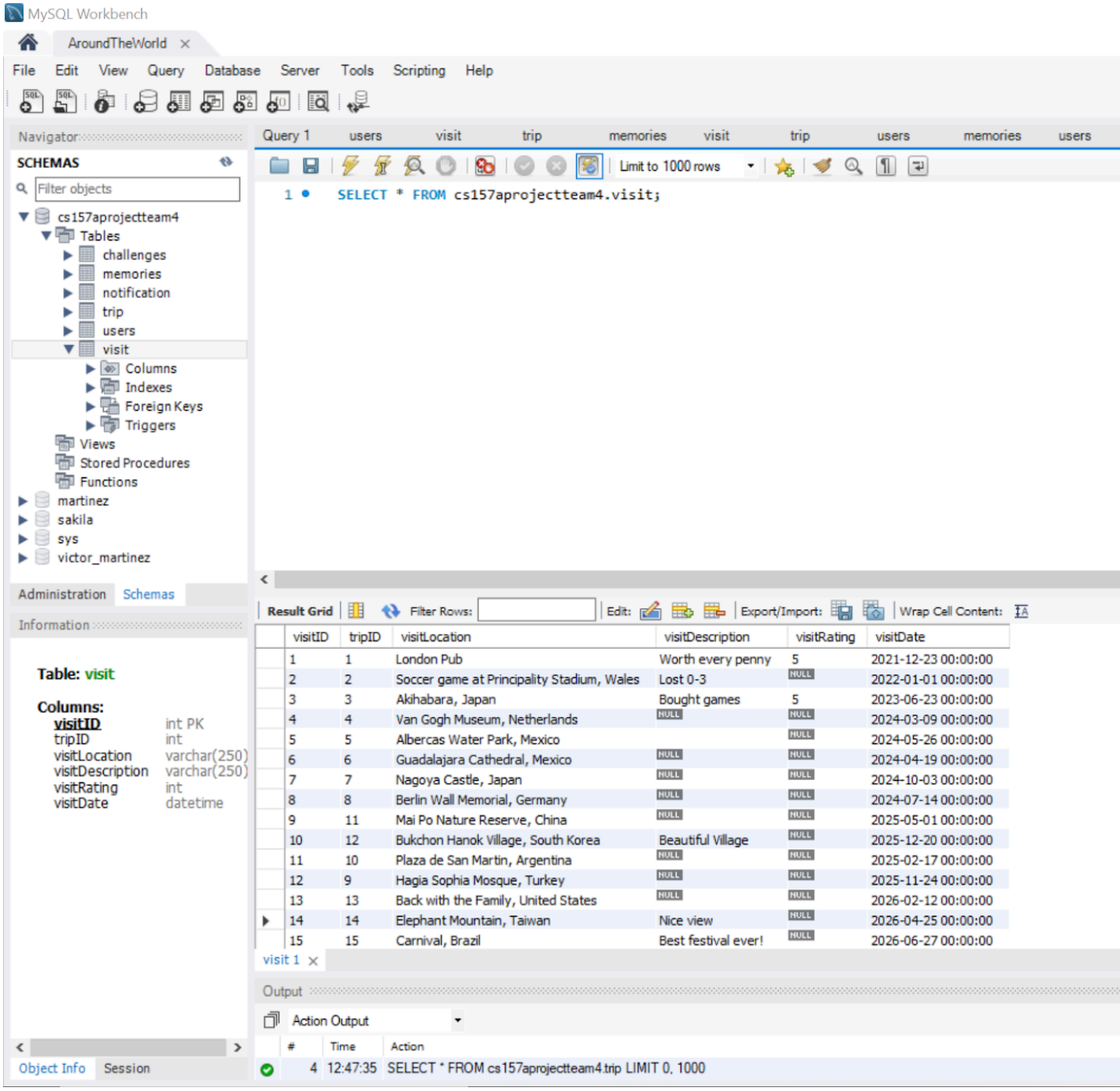
Triggers
users
visit
Views
Stored Procedures
Functions
martinez
sakila
sys
victor_martinez
Administration Schemas
Information
Table: trip
Columns:
tripID int AI PK
startDate datetime
endDate datetime
tripLocation varchar(250)
tripDescription varchar(250)
tripRating int
userID int
Object Info Session
Query 1 users visit trip memories visit trip users memories users notification
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.trip;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
tripID startDate endDate tripLocation tripDescription tripRating userID
1 2021-12-20 00:00:00 2021-12-27 00:00:00 London, United Kingdom Very snowy 4 1
2 2021-12-28 00:00:00 2022-01-02 00:00:00 Cardiff, Wales NULL NULL 1
3 2023-06-16 00:00:00 2023-07-11 00:00:00 Tokyo, Japan Beautiful Trees 5 2
4 2024-03-05 00:00:00 2024-04-06 00:00:00 Amsterdam, Netherlands NULL NULL 2
5 2024-05-14 00:00:00 2024-05-30 00:00:00 Tijuana, Mexico Had fun at the waterpark! NULL 2
6 2024-03-17 00:00:00 2024-04-25 00:00:00 Guadalajara, Mexico NULL NULL 3
7 2024-09-24 00:00:00 2024-10-04 00:00:00 Nagoya, Japan NULL NULL 3
8 2024-07-08 00:00:00 2024-07-18 00:00:00 Berlin, Germany NULL NULL 3
9 2025-11-20 00:00:00 2025-11-30 00:00:00 Istanbul, Turkey NULL NULL 4
10 2025-02-13 00:00:00 2025-02-24 00:00:00 Cordoba, Argentina NULL NULL 4
11 2025-04-26 00:00:00 2025-05-04 00:00:00 Shenzen, China NULL NULL 5
12 2025-12-20 00:00:00 2026-01-03 00:00:00 Seoul, South Korea NULL NULL 5
13 2026-02-10 00:00:00 2026-02-17 00:00:00 Los Angeles, United Sta... Back home visiting! NULL 8
14 2026-04-20 00:00:00 2026-05-02 00:00:00 Taipei, Taiwan NULL NULL 10
15 2026-06-14 00:00:00 2026-06-29 00:00:00 Rio De Jainero, Brazil Jesus Statue! NULL 12
trip 1
Output
Action Output
Time Action Message
4 12:47:35 SELECT * FROM cs157aprojectteam4.trip LIMIT 0, 1000 12 row(s) returned

Visit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Functions
martinez
sakila
sys
victor_martinez
Administration Schemas
Information
Table: visit
Columns:
visitID int PK
tripID int
visitLocation varchar(250)
visitDescription varchar(250)
visitRating int
visitDate datetime
Object Info Session
Query 1 users visit trip memories visit trip users memories users
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.visit;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
visitID tripID visitLocation visitDescription visitRating visitDate
1 1 London Pub Worth every penny 5 2021-12-23 00:00:00
2 2 Soccer game at Principality Stadium, Wales Lost 0-3 NULL 2022-01-01 00:00:00
3 3 Akihabara, Japan Bought games 5 2023-06-23 00:00:00
4 4 Van Gogh Museum, Netherlands NULL NULL 2024-03-09 00:00:00
5 5 Albercas Water Park, Mexico NULL 2024-05-26 00:00:00
6 6 Guadalajara Cathedral, Mexico NULL NULL 2024-04-19 00:00:00
7 7 Nagoya Castle, Japan NULL NULL 2024-10-03 00:00:00
8 8 Berlin Wall Memorial, Germany NULL NULL 2024-07-14 00:00:00
9 11 Mai Po Nature Reserve, China NULL NULL 2025-05-01 00:00:00
10 12 Bukchon Hanok Village, South Korea Beautiful Village NULL 2025-12-20 00:00:00
11 10 Plaza de San Martin, Argentina NULL NULL 2025-02-17 00:00:00
12 9 Hagia Sophia Mosque, Turkey NULL NULL 2025-11-24 00:00:00
13 13 Back with the Family, United States NULL NULL 2026-02-12 00:00:00
14 14 Elephant Mountain, Taiwan Nice view NULL 2026-04-25 00:00:00
15 15 Carnival, Brazil Best festival ever! NULL 2026-06-27 00:00:00
visit 1
Output
Action Output
Time Action
4 12:47:35 SELECT * FROM cs157aprojectteam4.trip LIMIT 0, 1000

TripLikes

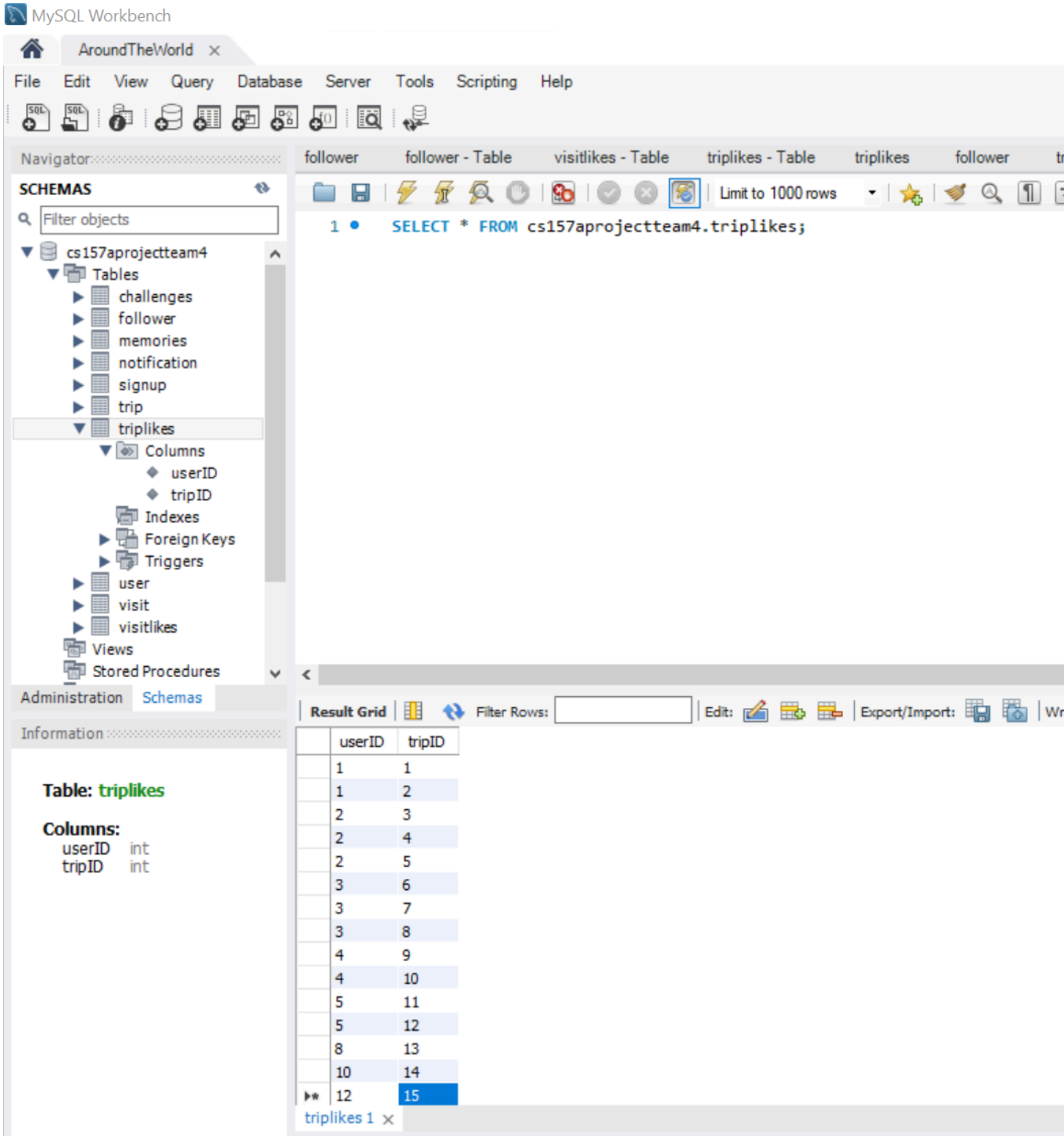
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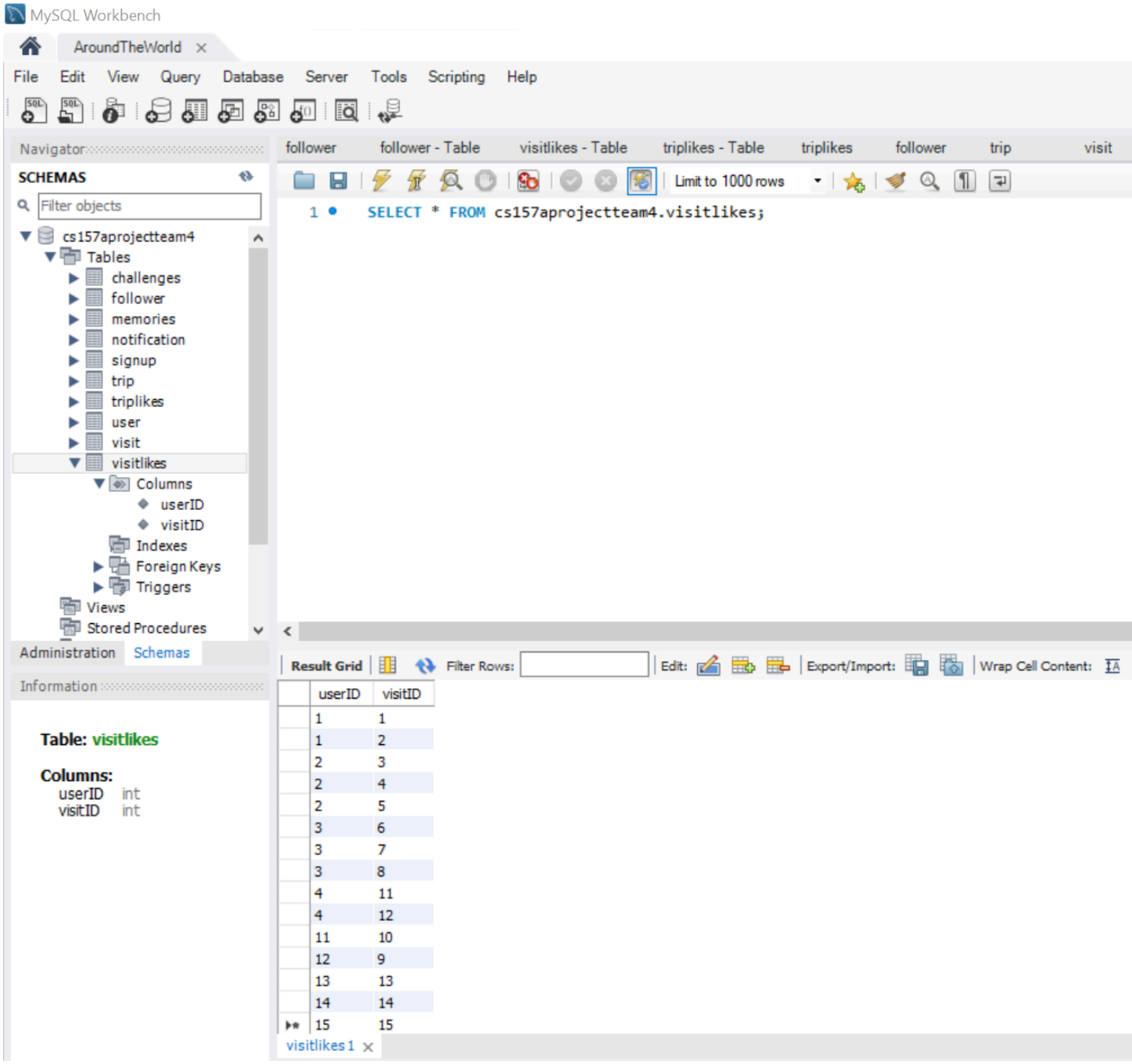
Table: triplikes
Columns:
userID int
tripID int
follower
follower - Table
visitlikes - Table
triplikes - Table
triplikes
follower
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.triplikes;
Result Grid
Filter Rows:
Edit:
Export/Import:
userID tripID
1 1
1 2
2 3
2 4
2 5
3 6
3 7
3 8
4 9
4 10
5 11
5 12
8 13
10 14
12 15
triplikes 1

VisitLikes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Columns
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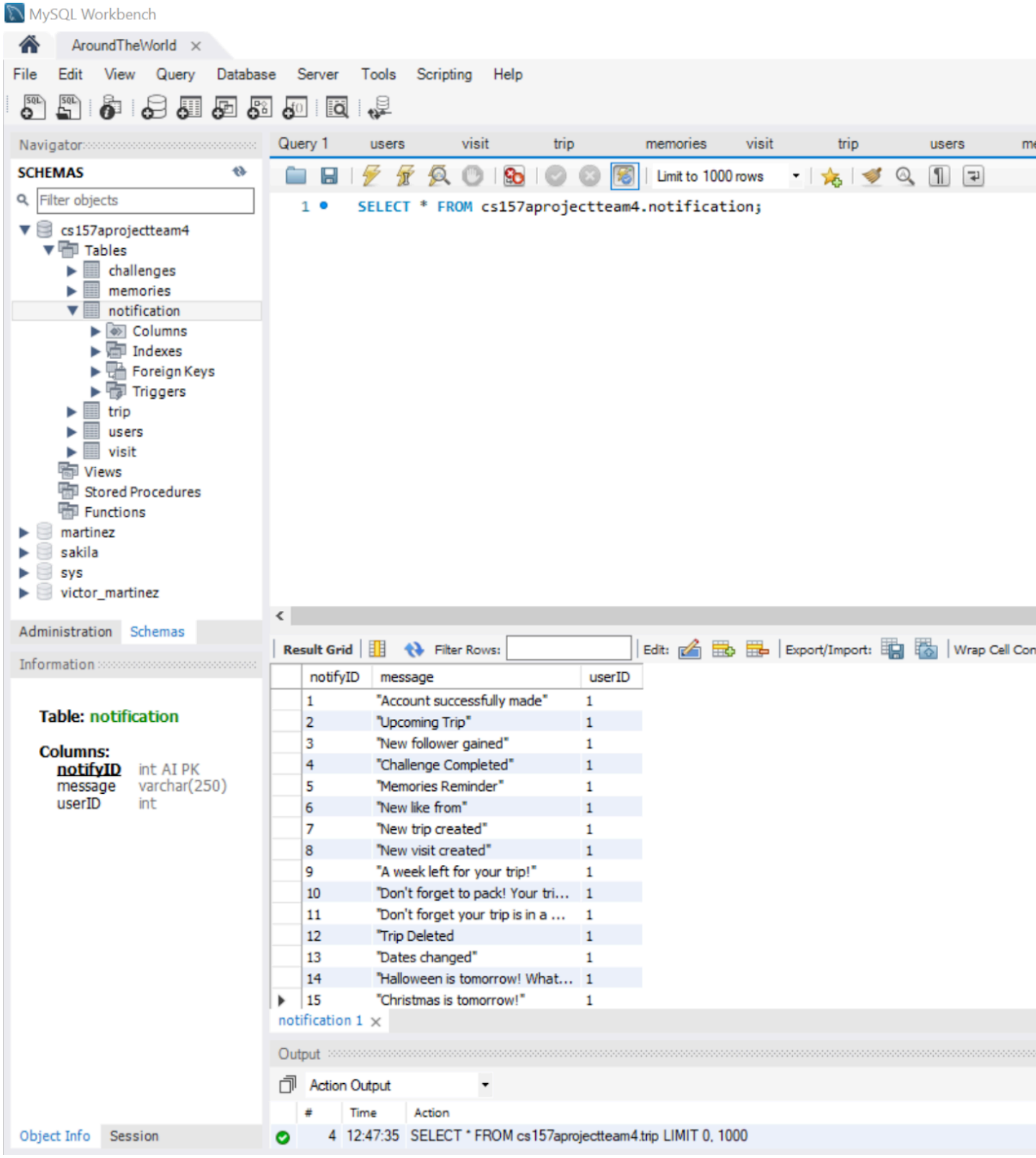
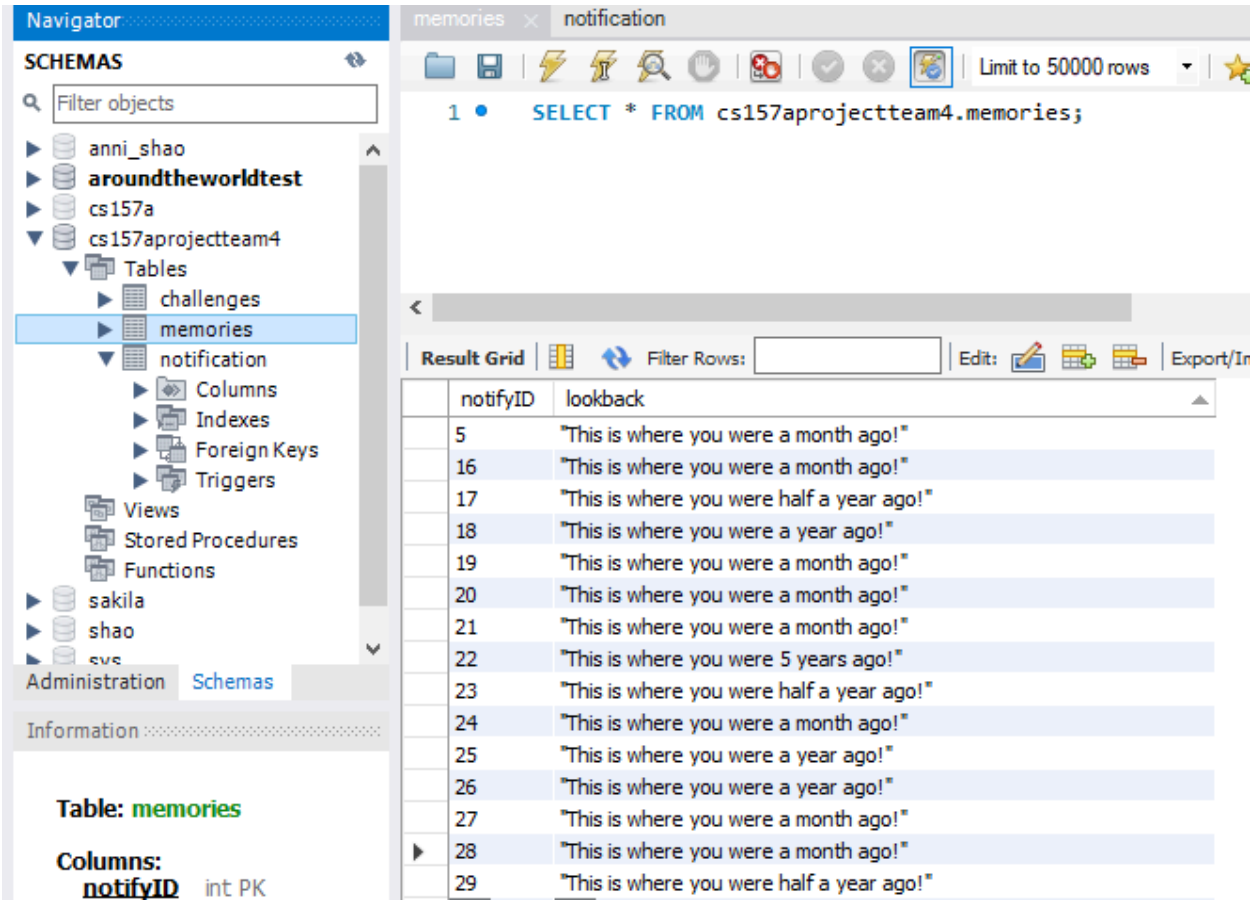
Information
Table: visitlikes
Columns:
userID int
visitID int
follower follower - Table visitlikes - Table triplikes - Table triplikes follower trip visit
Limit to 1000 rows
1 SELECT * FROM cs157aprojectteam4.visitlikes;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
userID visitID
1 1
1 2
2 3
2 4
2 5
3 6
3 7
3 8
4 11
4 12
11 10
12 9
13 13
14 14
15 15
visitlikes 1

Notifications



Memories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sakila
shao
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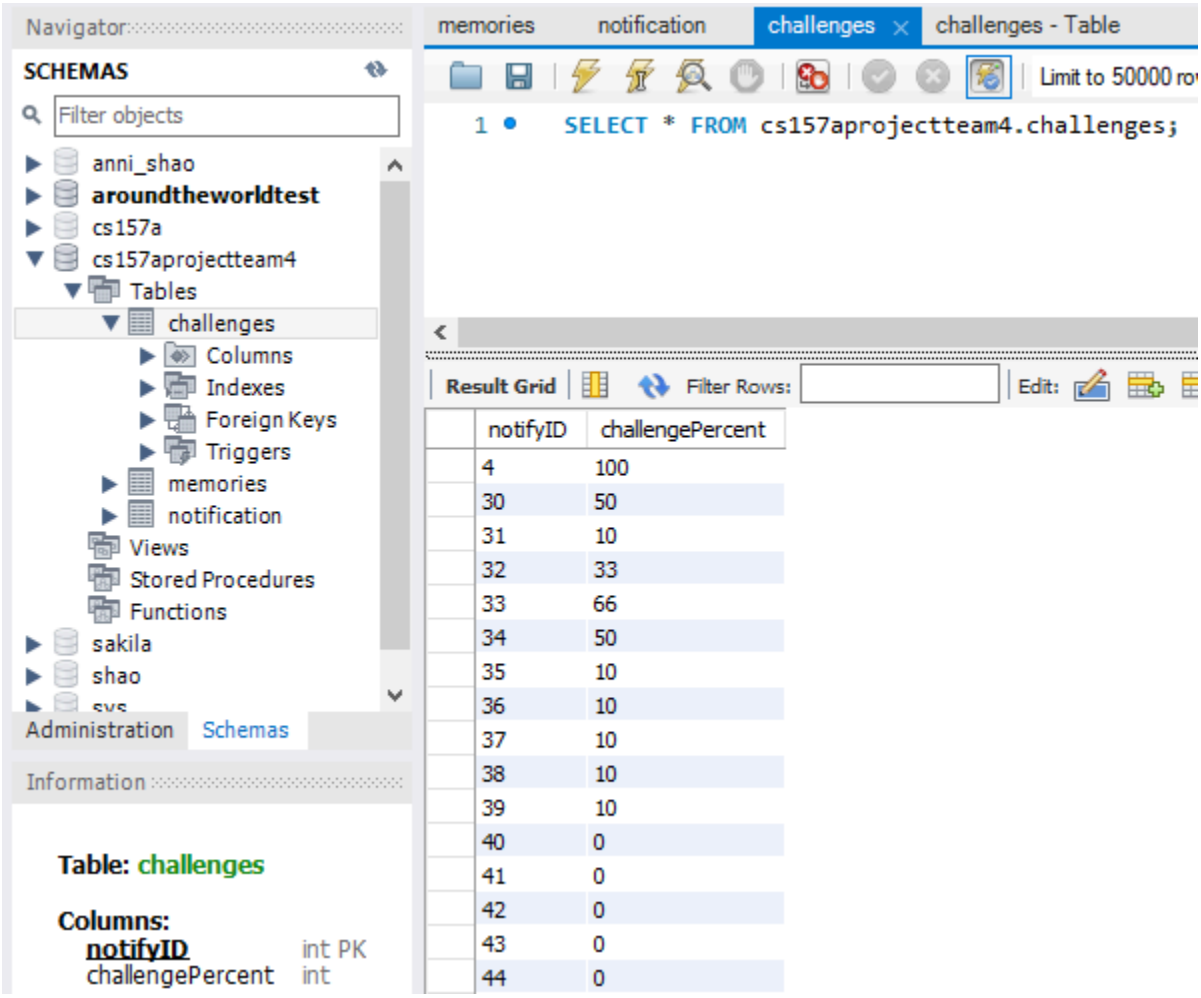
Schemas
Information
Table: memories
Columns:
notifyID int PK
memories
notification
Limit to 50000 rows
1 SELECT * FROM cs157aprojectteam4.memories;
Result Grid
Filter Rows:
Edit:
Export/Im
notifyID
lookback
5 "This is where you were a month ago!"
16 "This is where you were a month ago!"
17 "This is where you were half a year ago!"
18 "This is where you were a year ago!"
19 "This is where you were a month ago!"
20 "This is where you were a month ago!"
21 "This is where you were a month ago!"
22 "This is where you were 5 years ago!"
23 "This is where you were half a year ago!"
24 "This is where you were a month ago!"
25 "This is where you were a year ago!"
26 "This is where you were a year ago!"
27 "This is where you were a month ago!"
28 "This is where you were a month ago!"
29 "This is where you were half a year ago!"

Challenges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Functions
sakila
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Administration
Schemas
Information
Table: challenges
Columns:
notifyID int PK
challengePercent int
memories
notification
challenges
challenges - Table
Limit to 50000 ro
1 SELECT * FROM cs157aprojectteam4.challenges;
Result Grid
Filter Rows:
Edit:
notifyID challengePercent
4 100
30 50
31 10
32 33
33 66
34 50
35 10
36 10
37 10
38 10
39 10
40 0
41 0
42 0
43 0
44 0