

CPSC 304 Project Cover Page

Milestone #: 4

Date: December 1, 2023

Group Number: 18

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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

Short Description of the Final Project

Our project centers around developing a health and fitness/progress tracking application. In this domain, we are creating a comprehensive fitness app that empowers users to design workouts, monitor goal achievements, and schedule sessions with gym trainers. The database encompasses user profiles, workout plans, exercise details, progress tracking, trainer appointments, and facilitates social interaction, enabling users to share their fitness statistics and achievements with friends.

a. Functionality:

- i. User profiles: where users can set their profile with their phone #, name, weight, etc.
- ii. Workout plans: where users can create workout plans with specific exercises.
- iii. Exercise information: to store information on the exercises such as targeted muscle groups, equipment, reps, sets, etc.
- iv. Progress tracking: where users can set goals with specified metrics and track them over time.
- v. Trainer appointments: where users can book a training session at a gym at specific times to help their workout progress.
- vi. Social Interaction: where users can share with each other their statistics, etc.

A description of how your final schema differed from the schema you turned in

- For the most part the schema was kept the same from before. Some minor changes were made however, including slight attribute name changes for naming consistency, and the attribute types for Goal_Quantity and Goal_Progress in SetsGoals were changed from VARCHAR to INTEGER.
- Anytime there is a date attribute in our schema, instead of char we use the Date data type now.
- Some tables such as "BooksAppointment", "Exercise", and "Has" were missing foreign keys so those were added.
- Triggers and sequences were also used in the SQL script in order to generate unique primary keys every time an insert occurred.

Copy of Schema and Screenshots of Present Data

Users(Phone: char(10), Name: varchar(40), Weight: integer, Height: integer)

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182

FriendsWith(friend1_Phone: char(10), friend2_Phone: char(10))

FRIEND1_PH	FRIEND2_PH
7781234098	7785734567
7783334987	7785734567
7784758890	7785734567
7785734567	7781234098
7785734567	7783334987
7785734567	7784758890

SetsGoals(Phone: char(10), Goal_Name: varchar(40), Goal_Quantity: integer, Goal_Progress: integer)

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1

CaloricBalance(LogDate: Date, Intake: integer, Burned: integer)

LOGDATE	INTAKE	BURNED
01-JAN-23	2500	1700
02-JAN-23		
03-JAN-23	2250	2400
14-JAN-23	1700	1300
15-JAN-23	2500	1700

Tracks(Phone: char(10), LogDate: Date)

PHONE	LOGDATE
7781234098	03-JAN-23
7781234098	15-JAN-23
7784758890	01-JAN-23
7785734567	01-JAN-23
7785734567	02-JAN-23

Trainers(Phone: char(10), TrainerID: integer, Speciality: varchar(40))

PHONE	TRAINERID	SPECIALTY
7786879098	23458970	Strength and Conditioning
7785734567	23458971	HIIT
7786879098	23458973	Bodybuilding
7781234098	23458972	Weight Loss
7784758890	23458978	Functional Training

Certification(ID: integer, Title: varchar(4), GetDate: Date)

ID	TITLE	GETDATE
1	BCRPA Personal Trainer	12-AUG-14
2	ISSA Certification	15-AUG-22
3	ISSA Certification	15-AUG-22
4	NSCA-Certified Personal Trainer	04-JAN-14
5	ACE Certified Personal Trainer	17-MAY-15

Has(Phone: char(10), TrainerID: integer, Certification_ID: integer)

PHONE	TRAINERID	CERTIFICATION_ID
7781234098	23458972	4
7784758890	23458978	5
7785734567	23458971	2
7786879098	23458970	1
7786879098	23458973	3

Workouts(Name: varchar(40), NumExercises: integer)

NAME	NUMEXERCISES
HIT: Legs and Core	3
Intense Abs	3
Biceps and Triceps	3
Super Upper Body Strength	3
Endurance and Core Strength	3

Does(Phone: char(10), Workouts Name: varchar)

PHONE	WORKOUTS_NAME
7781234098	HIT: Legs and Core
7783334987	Biceps and Triceps
7784758890	Super Upper Body Strength
7785734567	Super Upper Body Strength
7786879098	Intense Abs

Equipment(Name: varchar, Instructions: char(200))

NAME

INSTRUCTIONS

Yoga Mat

1. Unroll the yoga mat 2. Position the mat right side up 3. Place hands and feet on the mat

DumbBells

1. Hold one dumbbell in each hand 2. Grip the dumbbell firmly

NAME

INSTRUCTIONS

Leg Press Machine

1. Sit on the machine and place your feet shoulder width apart on the platform 2. Extend your legs without locking them 3. Bring your legs back and repeat

Lat Pulldown Machine

1. Sit on the seat and grip the bar shoulder width apart 2. Pull the bar down to your chest slowly 3. Release the bar back up and repeat

NAME

INSTRUCTIONS

Pull-Up Bar

1. Grip the bar with your arms positions slightly wider than shoulder width apart 2. Pull yourself up until your chin reaches the bar 3. Lower yourself down and repeat

Exercise(ID: integer, Exercise_Name: varchar(40), MuscleGroup: varchar(40), Repetitions: integer, Sets: integer, **Equipment_Name: varchar(40), unique(Exercise_Name, MuscleGroup, Repetitions, Sets)**)

ID	EXERCISE_NAME		
MUSCLEGROUP		REPETITIONS	SETS
EQUIPMENT_NAME			
1	DumbBell Bench Press		
Upper Body		8	5
DumbBells			
2	DumbBell Bent Over Row		
Upper Body		8	5
DumbBells			
ID	EXERCISE_NAME		
MUSCLEGROUP		REPETITIONS	SETS
EQUIPMENT_NAME			
3	Drop Squats		
Lower Body		10	5
Yoga Mat			
4	Mountain Climbers		
Lower Body		20	3
ID	EXERCISE_NAME		
MUSCLEGROUP		REPETITIONS	SETS
EQUIPMENT_NAME			
Yoga Mat			
5	Plank Walk		
Core		15	2
Yoga Mat			

Contains(Workouts_Name: varchar(40), Exercise_ID: integer)

WORKOUTS_NAME	EXERCISE_ID
Biceps and Triceps	2
Endurance and Core Strength	5
HIT: Legs and Core	3
Intense Abs	4
Super Upper Body Strength	1

Gyms(Address: varchar(60), PostalCode: char(6), Name: varchar(50))

ADDRESS	POSTAL
NAME	
2155 Allison Rd, Vancouver, BC Golds Gym University MarketPlace	V6T1T5
6138 Student Union Blvd, Vancouver, BC ARC @ UBC Life Building	V6T1Z1
6000 Student Union Blvd, Vancouver, BC BirdCoop Fitness Centre	V6T1T5
ADDRESS	POSTAL
NAME	
6108 Thunderbird Blvd Unit 1, Vancouver, BC UBC BodyWorks Fitness Centre	V6T1Z3
5740 Toronto Rd #205, Vancouver, BC Little Rock Fitness	V6T2H7

BooksAppointment(**ID: integer** , **Phone: char(10)**, **TrainerPhone: char(10)**, **TrainerID: integer**,
Address: varchar(60), **PostalCode: char(6)**, ApptDate: Date, StartTime: char(5), EndTime:
char(5), SessionType: char(20))

ID	PHONE	TRAINERPHO	TRAINERID	ADDRESS	POSTAL	APPTDATE
3	7786879098	7786879098	23458973	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23
4	7784758890	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23
5	7781234098	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23

List of SQL Queries, Location in Code, and Screenshots of Operation

INSERT Operations:

Creating a new user:

- Backend Code: src/PHP/logic.php, lines 144-167
- Frontend Code: src/Pages/account.php, lines 32-41

Before creating a new user (insert operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182

During creating a new user (insert operation):

Create Account

Phone:  Name: Weight: Height:

After creating a new user (insert operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182
7781234459	Mark Applebee	143	162

Setting a new goal:

- Backend Code: src/PHP/logic.php, lines 270-293
- Frontend Code: src/Pages/goals.php, lines 32-54

Before setting a new goal (insert operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1

During setting a new goal (insert operation):

Set New Goal

User :

Goal Name:

Quantity:

Progress:

After setting a new goal (insert operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1
7789083344	Squat 50lbs	50	10

Log caloric balance:

- Backend Code: src/PHP/logic.php, lines 395-430
- Frontend Code: src/Pages/calories.php, lines 32-56

Before logging caloric balance (insert operation):

Retrieved data from table CALORICBALANCE:

LOGDATE INTAKE BURNED

01-JAN-23 2500 1700

02-JAN-23

03-JAN-23 2250 2400

14-JAN-23 1700 1300

15-JAN-23 2500 1700

Retrieved data from table TRACKS:

PHONE LOGDATE

7781234098 03-JAN-23

7781234098 15-JAN-23


7784758890 01-JAN-23


7785734567 01-JAN-23

7785734567 02-JAN-23

During logging caloric balance (insert operation):

Log Caloric Balance

User : 

Date: 

Intake:

Burned:

After logging caloric balance (insert operation):

Retrieved data from table CALORICBALANCE:

LOGDATE INTAKE BURNED

01-JAN-23 2500 1700

02-JAN-23

03-JAN-23 2250 2400

14-JAN-23 1700 1300

15-JAN-23 2500 1700

23-NOV-23 5000 1000

Retrieved data from table TRACKS:

PHONE LOGDATE

7781234098 03-JAN-23

7781234098 15-JAN-23

7784758890 01-JAN-23

7785734567 01-JAN-23

7785734567 02-JAN-23

7785734567 23-NOV-23

Create an appointment:

- Backend Code: src/PHP/logic.php, lines 445-473
- Frontend Code: src/Pages/appointment.php, lines 33-79

Before creating an appointment (insert operation):

Retrieved data from table BOOKSAPPOINTMENT:

ID	PHONE	TRAINERPHONE	TRAINERID	ADDRESS	POSTALCODE	APPTDATE	STARTTIME	ENDTIME	SESSIONTYPE
1	7785734567	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Upper Body
2	7783334987	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Lower Body
3	7786879098	7786879098	23458973	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Cardio
4	7784758890	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Conditioning
5	7781234098	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Pilates

During creating an appointment (insert operation):

Create an Appointment

User:

Trainer:

Gym:

Appointment Date:

Start Time:

End Time:

Session Type:

After creating an appointment (insert operation):

Retrieved data from table BOOKSAPPOINTMENT:

ID	PHONE	TRAINERPHONE	TRAINERID	ADDRESS	POSTALCODE	APPTDATE	STARTTIME	ENDTIME	SESSIONTYPE
1	7785734567	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Upper Body
2	7783334987	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Lower Body
3	7786879098	7786879098	23458973	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Cardio
4	7784758890	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Conditioning
5	7781234098	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC V6T2H7		02-OCT-23	14:00	15:00	Pilates
21	7788912340	7784758890	23458978	5740 Toronto Rd #205, Vancouver, BC V6T2H7		09-DEC-23	11:17	00:17	strength training

User does workout:

- Backend Code: src/PHP/logic.php, lines 528-549
- Frontend Code: src/Pages/workouts.php, lines 34-63

Before user does workout (insert operation):

Retrieved data from table DOES:

PHONE	WORKOUTS_NAME
7781234098	HIT: Legs and Core
7783334987	Biceps and Triceps
7784758890	Super Upper Body Strength
7785734567	Super Upper Body Strength
7786879098	Intense Abs

During user does workout (insert operation):

Select a Workout to Do

User :

Workout :

After user does workout (insert operation):

Retrieved data from table DOES:

PHONE	WORKOUTS_NAME
7781234098	HIT: Legs and Core
7781234459	HIT: Legs and Core
7783334987	Biceps and Triceps
7784758890	Super Upper Body Strength
7785734567	Super Upper Body Strength
7786879098	Intense Abs

Add a friend:

- Backend Code: src/PHP/logic.php, lines 598-620
- Frontend Code: src/Pages/friends.php, lines 48-81


Before add a friend (insert operation):


Retrieved data from table FRIENDSWITH:

FRIEND1_PHONE	FRIEND2_PHONE
7781234098	7785734567
7783334987	7785734567
7784758890	7785734567
7785734567	7781234098
7785734567	7783334987
7785734567	7784758890

During add a friend (insert operation):

Add Friends

User : 

Add : 

Add Friend

After add a friend (insert operation):

Retrieved data from table FRIENDSWITH:

FRIEND1_PHONE	FRIEND2_PHONE
7780101234	7789083344
7781234098	7785734567
7783334987	7785734567
7784758890	7785734567
7785734567	7781234098
7785734567	7783334987
7785734567	7784758890
7789083344	7780101234

DELETE Operations:

Delete a goal:

- Backend Code: src/PHP/logic.php, lines 319-340
- Frontend Code: src/Pages/goals.php, lines 57-77


Before deleting a goal (delete operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1
7789083344	Squat 50lbs	50	10

During deleting a goal (delete operation):

Delete Goal

User : 

Goal Name:

After deleting a goal (delete operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1

Delete an appointment:

- Backend Code: src/PHP/logic.php, lines 486-506
- Frontend Code: src/Pages/appointment.php, lines 83-104

Before deleting an appointment (delete operation):

Retrieved data from table BOOKSAPPOINTMENT:

ID	PHONE	TRAINERPHONE	TRAINERID	ADDRESS	POSTALCODE	APPTDATE	STARTTIME	ENDTIME	SESSIONTYPE
1	7785734567	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Upper Body
2	7783334987	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Lower Body
3	7786879098	7786879098	23458973	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Cardio
4	7784758890	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Conditioning
5	7781234098	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Pilates
21	7788912340	7784758890	23458978	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	09-DEC-23	11:17	00:17	strength training

During deleting an appointment (delete operation):

Delete Appointment

Appointment : Rachel Green with Gordon Ramsey on 09-DEC-23 at 11:17-00:17 ▼

Delete Appointment

After deleting an appointment (delete operation):

Retrieved data from table BOOKSAPPOINTMENT:

ID	PHONE	TRAINERPHONE	TRAINERID	ADDRESS	POSTALCODE	APPTDATE	STARTTIME	ENDTIME	SESSIONTYPE
1	7785734567	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Upper Body
2	7783334987	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Lower Body
3	7786879098	7786879098	23458973	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Cardio
4	7784758890	7785734567	23458971	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Conditioning
5	7781234098	7786879098	23458970	5740 Toronto Rd #205, Vancouver, BC	V6T2H7	02-OCT-23	14:00	15:00	Pilates

Remove a friend:

- Backend Code: src/PHP/logic.php, lines 622-644
- Frontend Code: src/Pages/friends.php, lines 84-117

Before removing a friend (delete operation):

FRIEND1_PHONE	FRIEND2_PHONE
7780101234	7789083344
7781234098	7785734567
7783334987	7785734567
7784758890	7785734567
7785734567	7781234098
7785734567	7783334987
7785734567	7784758890
7789083344	7780101234

During removing a friend (delete operation):

Remove Friends

User :

Remove :

After moving a friend (delete operation):

Retrieved data from table FRIENDSWITH:

FRIEND1_PHONE	FRIEND2_PHONE
7781234098	7785734567
7783334987	7785734567
7784758890	7785734567
7785734567	7781234098
7785734567	7783334987
7785734567	7784758890

UPDATE Operations:

Updating user weight:

- Backend Code: src/PHP/logic.php, lines 169-190
- Frontend Code: src/Pages/account.php, lines 43-64

Before updating user weight (update operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182
7781234459	Mark Applebee	143	162

During updating user weight (update operation):

Update Weight

User :

New Weight:

After updating user weight (update operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182
7781234459	Mark Applebee	130	162

Updating user height:

- Backend Code: src/PHP/logic.php, lines 192-213
- Frontend Code: src/Pages/account.php, lines 66-87

Before updating user height (update operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182
7781234459	Mark Applebee	130	162

During updating user height (update operation):

Update Height

User :

New Height:

After updating user height (update operation):

Retrieved data from table USERS:

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182
7781234459	Mark Applebee	130	170

Updating a goal:

- Backend Code: src/PHP/logic.php, lines 295-317
- Frontend Code: src/Pages/goals.php, lines 80-101

Before updating a goal (update operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	1

During updating a goal (update operation):

Update Goal

User : ▼

Goal Name:

New Progress:

After updating a goal (update operation):

Retrieved data from table SETSGOALS:

PHONE	GOAL_NAME	GOAL_QUANTITY	GOAL_PROGRESS
7785734567	Go jogging 10km	10	0
7783334987	Go to the gym 10 times	10	2
7786879098	Bench Press 120lbs	120	110
7785734567	Do 100lbs Barbell Squats	100	50
7781234098	Go hiking 5 times	5	4

Selection Operation:

- Backend Code: src/PHP/logic.php, lines 695-725
- Frontend Code: src/Pages/account.php, lines 118-131

Before (selection operation):

BMI Distribution Search

User : -- Select --

Submit

During (selection operation):

BMI Distribution Search

User : Weight > 150 AND Height > 150

Submit

After (selection operation):

Showing users with u.Weight > 150 AND u.Height > 150

Phone	Name	Weight	Height
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182

Projection Operation:

- Backend Code: src/PHP/logic.php, lines 110-140
- Frontend Code: src/Pages/home.php, lines 33-70

Before choosing a table and attributes (projection operation):

Quick View

Table :

Attributes :

During choosing a table and attributes (projection operation):

Table :

Attributes :

- ☒ PHONE
- ☒ WORKOUTS_NAME

After choosing a table and attributes (projection operation):

Retrieved data from table DOES:

PHONE WORKOUTS_NAME

7781234098 HIT: Legs and Core

7781234459 HIT: Legs and Core

7783334987 Biceps and Triceps

7784758890 Super Upper Body Strength

7785734567 Super Upper Body Strength

7786879098 Intense Abs

Join Operation:

- Backend Code: src/PHP/logic.php, lines 569-591
- Frontend Code: src/Pages/workouts.php, lines 85-91

Before (Join Operation):

Display Workouts Containing Exercises Targetting Specified Muscle Group!

Muscle Group:

Show Workouts

During (Join Operation):

Display Workouts Containing Exercises Targetting Specified Muscle Group!

Muscle Group:

Show Workouts

After (Join Operation):

Results

All Workouts that contain Lower Body exercises :

Workout Name

Intense Abs

HIT: Legs and Core

Aggregation with Group By Operation:

- Backend Code: src/PHP/logic.php, lines 433-442
- Frontend Code: src/Pages/calories.php, lines 80-85

Before (Aggregation with Group By Operation):

```
[SQL> select * from caloricbalance;

LOGDATE      INTAKE      BURNED
-----
01-JAN-23    2500        1700
02-JAN-23
03-JAN-23    2250        2400
14-JAN-23    1700        1300
15-JAN-23    2500        1700

[SQL> SELECT AVG(Burned) FROM CALORICBALANCE;

AVG(BURNED)
-----
1775
```

During (Aggregation with Group By Operation):

Are you Burning Enough Calories? See how you Compare to the Average User!

Check Calories Burned by Average Users

After (Aggregation with Group By Operation):

Results

The average calories burned by all users: 1775

Aggregation with Having Operation:

- Backend Code: src/PHP/logic.php, lines 670-691
- Frontend Code: src/Pages/friends.php, lines 34-45

Before (Aggregation with Having Operation):

Find Friends with Similar Daily Routines

Enter your daily calorie burn range to find users with similar routines.

Min Average Calories Burned:

Max Average Calories Burned:

Find Friends

During (Aggregation with Having Operation):

Find Friends with Similar Daily Routines

Enter your daily calorie burn range to find users with similar routines.

Min Average Calories Burned:

Max Average Calories Burned:

Find Friends

After (Aggregation with Having Operation):

Results

Users within your calorie burn range:

Phone	Name	Avg Calories Burned
7784758890	Gordon Ramsey	1700
7785734567	Alice Doe	1700

Nested Aggregation with Group By Operation:

- Backend Code: src/PHP/logic.php, lines 232-247
- Frontend Code: src/Pages/account.php, lines 112-114

Before (Nested Aggregation with Group By Operation):

```
[SQL> select * from users;
```

PHONE	NAME	WEIGHT	HEIGHT
7785734567	Alice Doe	134	178
7783334987	Bob Woo	156	198
7786879098	Sally Marsh	156	198
7784758890	Gordon Ramsey	178	185
7781234098	Lizzie Smith	124	169
7786188911	Elizabeth Cho	156	163
7787812030	Monica Geller	156	179
7788912340	Rachel Green	134	154
7787819150	Chandler Bing	210	190
7780101234	Joey Tribbiani	210	195
7789083344	Ross Geller	210	182

During (Nested Aggregation with Group By Operation):

Find out what weight class has an average height greater than the average height of all users!

Find Out Now!

After (Nested Aggregation with Group By Operation):

Results

Retrieved data from table Users:

Weight Average Height

210 189

156 184.5

178 185

Division Operation:

- Backend Code: src/PHP/logic.php, lines 343-357
- Frontend Code: src/Pages/goals.php lines 126-132

Before (Division Operation):

```
[SQL> select * from setsgoals;

PHONE      GOAL_NAME
-----
GOAL_QUANTITY
GOAL_PROGRESS
-----
7784758890 Push-Ups
1000
1000

7783334987 Sit-Ups
2500
2500
```

During (Division Operation):

Fitness Rockstars! Users That Have Achieved ALL Their Fitness Goals!

Use This As Motivation - You Can Hit Your Goals, Too!

[See Users](#)

After (Division Operation):

Results

Users who have achieved all their fitness goals:

Name	Phone
Gordon Ramsey	7784758890
Bob Woo	7783334987