

Gymnasium Management System

Our proposed Gym Management System is for those who run a gymnasium business. Here we have designed the model for a chain of gymnasiums at different locations that come under a central management.

We examined carefully about how to make a system without failure as well as different functions for different kind of user depending on their membership type. The Gym Management requires a system that will handle all the necessary and minute details easily through a proper database that stores data about members, employees, products, payments, personal training programs, group training programs and all amenities that are provided in the Gymnasium.

Application Description:

In our Application we have selected 9 basic entities for conceptual model design. Each Gymnasium will have a Manager to head the gym and employees like cleaner, IT Staff, Security etc who work under the manager. Each Gymnasium has basic facilities like equipments and also extra amenities that can be used by upgrading their membership through paying extra money. Each member will get a member kit on becoming a member of the gym. Trainers can be opted for by the members who conduct both group fitness class and also Personal training for the needed members.

Important assumptions about the Application:

- Members must register for joining the gym. On successful joining they receive a member kit which provides the member privileges like the unique user login id, the type of membership and the payment option. It also has an additional feature known as add guest that gives the member the privilege to add one of his/her acquaintance as a new member to the gym with no fee.
- Through a basic membership the member gets access to use the gym equipment's any day with no time limit for usage. For using the amenities like swimming pool, Zumba dance coaching, Squash, yoga centre, spa etc they must pay extra and change the membership type to the one according to their requirement. For a Gold membership they can use 1 amenity. For a Platinum membership they can use 2 amenities and for a Diamond membership they can use more than 2 amenities.
- Gym also provides both group fitness class and personal training as two separate categories with a personal trainer.

Business Rules for the Conceptual Model:

- A gymnasium must be managed exactly by one manager.
- A Manager can manage exactly one gym.
- A manager must manage at least one employee.
- An employee must have only one manager.
- A gymnasium can provide one or more amenities.
- An amenity (or amenities) can be provided by one or more gyms.
- An amenity can be used by none or any number of members.
- One Member must use only one-member kit.
- Only one-member kit is available to a member.
- A member can opt for none or many trainers.
- A trainer must have at least one member assigned.
- A trainer must give personal training to at least one member.
- A Personal Training program must have one and only one trainer.
- A trainer can conduct one or more group fitness classes.
- A Group fitness class must only be conducted by exactly one trainer.

Assumptions for the ER Diagram:

Assumptions for Gym Management System:

- Gym Type refers to whether it womens, mens or a unisex gym. Each of these gyms could have one or more amenities.
- Amenities include one or many of the following: swimming pools, squash, table tennis etc and members pay extra to avail these.
- We are not considering gym equipment as a part of the management system because every registered member gets to use all the equipment for free and has no other constraints.
- Every gym will have exactly one manager.
- Employees can be non -training staff who take care of IT, logistics and infrastructure.
- Member can use the gym facility without registering for any of the group fitness classes or personal training.
- Trainer will be hired when at least one member has registered for personal training or group fitness class.
- A Group fitness session is managed only by one trainer.

The Relational Model

1. Manager: [<u>Manager_ID</u> , Manager_Name, Email, Gym_ID (FK)]
2. Employee: [<u>Employee_ID</u> , Employee_Name, Contact, Role, Manager_ID (FK)]
3. Gymnasium: [<u>Gym_ID</u> , Gym_Type, Location]
4. Provide: [<u>Gym_ID</u> , <u>Amenity_ID</u> , <u>Provide_ID</u> (Concatenation of Gym ID and Amenity ID)]
5. Amenities: [<u>Amenity_ID</u> , Type, Capacity]
6. UsedBy: [<u>Amenity_ID</u> , <u>Member_ID</u> , <u>UsedBy_ID</u> (Concatenation of Amenity_ID and Member_ID)]
7. Members: [<u>Member_ID</u> , Name, MemberShip_Status, Login_ID (FK)]
8. MemberKit: [<u>Login_ID</u> , Payment, Membership_Type, Add_Guest]
9. OptFor: [<u>Member_ID</u> , <u>Trainer_ID</u> , <u>OptFor_ID</u> (Concatenation of Member_ID and trainer_ID)]
10. Trainer: [<u>Trainer_ID</u> , Trainer_Name, Skill]
11. PersonalTraining: [<u>Program_ID</u> , Program_Name, Fitness_Level, BMI, Trainer_ID (FK)]
12. GroupFitnessClass: [<u>Group_ID</u> , Group_Size, Activity_Name, Trainer_ID (FK)]

Rules Applied to the Relational Model:

- Manager relation has **Manager_ID** as the Primary Key and **Gym_ID** as Foreign Key derived from Gymnasium relation. (**1:1 relationship**).
- Gymnasium relation has **Gym_ID** as the Primary Key.
- Employee relation has **Employee_ID** as the Primary Key and **Manager_ID** as Foreign key derived from Manager relation. (**1: M relationship**).
- Amenities relation has **Amenity_ID** as the primary Key.
- Created a relation for Provide. Provide relation has **Gym_ID** and **Amenity_ID** as its attributes obtained from Gymnasium and Amenities relations (**M: N relationship**) and **Provide_ID** as the Primary Key obtained by concatenating **Gym_ID** and **Amenity_ID**.
- Created a relation for UsedBy. UsedBy relation has **Amenity_ID** and **Member_ID** as its attributes obtained from Amenities and Member relations. (**M: N relationship**) and **UsedBy_ID** as its Primary Key obtained by concatenating **Member_ID** and **Amenity_ID**.
- Members relation has **Member_ID** as the Primary Key and **Login_ID** as Foreign Key taken from MemberKit relation. (**1:1 relationship**).
- MemberKit relation has **Login_ID** as the Primary Key.
- Created a relation OptFor. OptFor has **Member_ID** and **Trainer_ID** as its attributes obtained from Members and Trainer relations (**M: N relationship**) and OptFor_ID as the Primary Key obtained by concatenating **Member_ID** and **Trainer_ID**.
- Trainer relation has **Trainer_ID** as the Primary Key.
- GroupFitnessClass has **Group_ID** as the Primary Key and Trainer_ID as the Foreign Key derived from Trainer relation. (**1: N relationship**).
- PersonalTraining has **Program_ID** as the Primary Key and **Trainer_ID** as the Foreign Key relation from Trainer relation. (**1: N relationship**).

Database Implementation

1. Manager Table:

	Manager_ID	Manager_Name	Email	Gym_ID
1	M10001	Adam	Adam@mail.com	G20001
2	M10002	Boney	Boney@mail.com	G20002
3	M10003	Sam	Sam@mail.com	G20003
4	M10004	Jim	Jim@mail.com	G20004
5	M10005	Tom	Tom@mail.com	G20005
6	M10006	Simon	Simon@mail.com	G20006
7	M10007	Aaron	Aaron@mail.com	G20007
8	M10008	Obama	Obama@mail.com	G20008
9	M10009	Trump	Trump@mail.com	G20009
10	M10010	Andrea	Andrea@mail.com	G20010
11	M10011	Bill	Bill@mail.com	G20011
12	M10012	Vim	Vim@mail.com	G20012
13	M10013	Abraham	Abraham@mail.com	G20013
14	M10014	Joney	Joney@mail.com	G20014
15	M10015	Mike	Mike@mail.com	G20015
16	M10016	Simona	Simona@mail.com	G20016
17	M10017	Aish	Aish@mail.com	G20017
18	M10018	Rebecca	Rebecca@mail.c...	G20018
19	M10019	Betsy	Betsy@mail.com	G20019
20	M10020	Ryan	Ryan@mail.com	G20020
21	M10021	John	John@mail.com	G20021
22	M10022	Anthony	Anthony@mail.com	G20022
23	M10023	Thomas	Thomas@mail.com	G20023
24	M10024	Michiel	Michiel@mail.com	G20024
25	M10025	Jamal	Jamal@mail.com	G20025
26	M10026	Jimney	Jimney@mail.com	G20026
27	M10027	Yun	Yun@mail.com	G20027
28	M10028	Kimothi	Kimothi@mail.com	G20028
29	M10029	Albani	Albani@mail.com	G20029
30	M10030	Mohan	Mohan@mail.com	G20030

2. Employee Table:

	Employee_ID	Employee_Name	Contact	Role	Manager_ID
1	E10001	Simona	4044954526	Front desk	M10001
2	E10002	Aish	4048351793	Cleaner	M10002
3	E10003	Rebecca	4043866793	Cleaner	M10003
4	E10004	Betsy	4045996599	Cleaner	M10004
5	E10005	Ryan	4048546244	Security	M10005
6	E10006	John	4047993717	IT Staff	M10006
7	E10007	Anthony	4043766569	Security	M10007
8	E10008	Thomas	4044997443	Cleaner	M10008
9	E10009	Michiel	4043640964	Front desk	M10009
10	E10010	Simon	4049624486	Cleaner	M10010
11	E10011	Aaron	4044625956	IT Staff	M10011
12	E10012	Obama	4047095803	IT Staff	M10012
13	E10013	Trump	4048550149	IT Staff	M10013
14	E10014	Andrea	4041286638	Cleaner	M10014
15	E10015	Bill	4042255845	Cleaner	M10015
16	E10016	Vim	4047803171	Security	M10016
17	E10017	Abraham	4047913859	Front desk	M10017
18	E10018	Joney	4041252085	IT Staff	M10018
19	E10019	Mike	4042826566	IT Staff	M10019
20	E10020	Jamal	4044532720	Security	M10020
21	E10021	Jimney	4046545672	Cleaner	M10021
22	E10022	Yun	4041489568	Cleaner	M10022
23	E10023	Kimothi	4046947259	Cleaner	M10023
24	E10024	Albani	4043932852	Front desk	M10024
25	E10025	Mohan	4044939247	Security	M10025
26	E10026	Adam	4046757787	Cleaner	M10026
27	E10027	Boney	4047023004	Cleaner	M10027
28	E10028	Sam	4046178408	Security	M10028
29	E10029	Jim	4047395361	Cleaner	M10029
30	E10030	Tom	4042749644	Front desk	M10030

3. Gymnasium Table:

	Gym_ID	Gym_Type	Location
1	G20001	mens	atlantis
2	G20002	mens	alpharetta
3	G20003	womens	smyrna
4	G20004	womens	indiana
5	G20005	mens	dunwoody
6	G20006	mens	marietta
7	G20007	mens	memphis
8	G20008	womens	smyrna
9	G20009	womens	syracuse
10	G20010	unisex	buckhead
11	G20011	womens	buckhead
12	G20012	mens	jacksonville
13	G20013	mens	costa
14	G20014	womens	cobb
15	G20015	unisex	cobb
16	G20016	womens	downtown
17	G20017	mens	downtown
18	G20018	unisex	texas
19	G20019	mens	park
20	G20020	unisex	stellas
21	G20021	unisex	rocky
22	G20022	unisex	lindbergh
23	G20023	womens	smoky
24	G20024	womens	atlantis
25	G20025	mens	countway
26	G20026	unisex	disneytown
27	G20027	unisex	broadstreet
28	G20028	unisex	lillycenter
29	G20029	unisex	smoky
30	G20030	unisex	atlantis

4. **Provide Table:**

Top 10 order by Provide_ID asc & Top 10 order by Provide_ID desc

	Provide_ID	Gym_ID	Amenity_ID
1	G20001A01	G20001	A01
2	G20001A02	G20001	A02
3	G20001A03	G20001	A03
4	G20001A04	G20001	A04
5	G20001A05	G20001	A05
6	G20001A06	G20001	A06
7	G20001A07	G20001	A07
8	G20001A08	G20001	A08
9	G20001A09	G20001	A09
10	G20001A10	G20001	A10

	Provide_ID	Gym_ID	Amenity_ID
1	G20030A30	G20030	A30
2	G20030A29	G20030	A29
3	G20030A28	G20030	A28
4	G20030A27	G20030	A27
5	G20030A26	G20030	A26
6	G20030A25	G20030	A25
7	G20030A24	G20030	A24
8	G20030A23	G20030	A23
9	G20030A22	G20030	A22
10	G20030A21	G20030	A21

5. Amenities Table:

	Amenity_ID	Type	Capacity
1	A01	Squash	159
2	A02	Basketball	19
3	A03	Table Tennis	171
4	A04	Yoga	151
5	A05	Cycling	29
6	A06	Zumba	138
7	A07	Hottub	67
8	A08	Showers	110
9	A09	Lockers	143
10	A10	Childcare	123
11	A11	Volleyball	38
12	A12	Spa	97
13	A13	Swimming	23
14	A14	Sleeproom	44
15	A15	Massage	74
16	A16	Steambath	150
17	A17	Dancing	92
18	A18	Aerobics	160
19	A19	Carromboard	58
20	A20	Chess	167
21	A21	Bowling	196
22	A22	Medicare	69
23	A23	Videogames	28
24	A24	Simulation	129
25	A25	Snooker	62
26	A26	Spinning	110
27	A27	Ayurveda	39
28	A28	Haircare	106
29	A29	Skintherapy	52
30	A30	Physiotherapy	94

6. UsedBy Table:

Top 10 order by UsedBy_ID asc & Top 10 order by UsedBy_ID desc

	UsedBy_ID	Amenity_ID	Member_ID
1	A01ME10001	A01	ME10001
2	A01ME10002	A01	ME10002
3	A01ME10003	A01	ME10003
4	A01ME10004	A01	ME10004
5	A01ME10005	A01	ME10005
6	A01ME10006	A01	ME10006
7	A01ME10007	A01	ME10007
8	A01ME10008	A01	ME10008
9	A01ME10009	A01	ME10009
10	A01ME10010	A01	ME10010

	UsedBy_ID	Amenity_ID	Member_ID
1	A30ME10030	A30	ME10030
2	A30ME10029	A30	ME10029
3	A30ME10028	A30	ME10028
4	A30ME10027	A30	ME10027
5	A30ME10026	A30	ME10026
6	A30ME10025	A30	ME10025
7	A30ME10024	A30	ME10024
8	A30ME10023	A30	ME10023
9	A30ME10022	A30	ME10022
10	A30ME10021	A30	ME10021

7. Members Table:

	Member_ID	Name	Membership_Status	Login_ID
1	ME10001	Adolfo	Active	L0001
2	ME10002	Mariko	Active	L0002
3	ME10003	Reginald	Active	L0003
4	ME10004	Hans	Active	L0004
5	ME10005	Rose	Active	L0005
6	ME10006	Trish	Active	L0006
7	ME10007	Rema	Active	L0007
8	ME10008	Loida	Active	L0008
9	ME10009	Gilma	Expired	L0009
10	ME10010	Sebastian	Active	L0010
11	ME10011	Annabelle	Active	L0011
12	ME10012	Jammie	Active	L0012
13	ME10013	Loretta	Active	L0013
14	ME10014	Matilda	Active	L0014
15	ME10015	Jessi	Expired	L0015
16	ME10016	Shizue	Active	L0016
17	ME10017	Demetria	Active	L0017
18	ME10018	Hanh	Active	L0018
19	ME10019	Gayla	Active	L0019
20	ME10020	Andres	Active	L0020
21	ME10021	Evelynn	Active	L0021
22	ME10022	Michaela	Active	L0022
23	ME10023	Rikki	Active	L0023
24	ME10024	Rosella	Expired	L0024
25	ME10025	Janise	Expired	L0025
26	ME10026	Kandy	Active	L0026
27	ME10027	Hyon	Active	L0027
28	ME10028	Genevieve	Expired	L0028
29	ME10029	Xochitl	Active	L0029
30	ME10030	Comelia	Expired	L0030

8. MemberKit Table:

	Login_ID	Payment	Membership_Type	Add_Guest
1	L0001	Credit	Basic	1
2	L0002	Voucher	Basic	0
3	L0003	Voucher	Basic	0
4	L0004	Voucher	Basic	0
5	L0005	Debit	Diamond	0
6	L0006	Debit	Platinum	1
7	L0007	Debit	Platinum	1
8	L0008	Debit	Platinum	0
9	L0009	Debit	Basic	1
10	L0010	Debit	Basic	0
11	L0011	Debit	Basic	0
12	L0012	Cash	Basic	1
13	L0013	Cash	Gold	1
14	L0014	Cash	Gold	0
15	L0015	Credit	Gold	0
16	L0016	Cash	Gold	1
17	L0017	Credit	Gold	1
18	L0018	Credit	Diamond	1
19	L0019	Cash	Diamond	0
20	L0020	Credit	Diamond	0
21	L0021	Voucher	Diamond	1
22	L0022	Voucher	Diamond	0
23	L0023	Credit	Platinum	0
24	L0024	Debit	Platinum	1
25	L0025	Debit	Gold	1
26	L0026	Debit	Platinum	1
27	L0027	Voucher	Gold	0
28	L0028	Voucher	Platinum	0
29	L0029	Voucher	Platinum	0
30	L0030	Credit	Diamond	1

9. OptFor Table:

Top 10 order by OptFor_ID asc & Top 10 order by OptFor_ID desc

	OptFor_ID	Member_ID	Trainer_ID
1	ME10001T10001	ME10001	T10001
2	ME10001T10002	ME10001	T10002
3	ME10001T10003	ME10001	T10003
4	ME10001T10004	ME10001	T10004
5	ME10001T10005	ME10001	T10005
6	ME10001T10006	ME10001	T10006
7	ME10001T10007	ME10001	T10007
8	ME10001T10008	ME10001	T10008
9	ME10001T10009	ME10001	T10009
10	ME10001T10010	ME10001	T10010

	OptFor_ID	Member_ID	Trainer_ID
1	ME10030T10030	ME10030	T10030
2	ME10030T10029	ME10030	T10029
3	ME10030T10028	ME10030	T10028
4	ME10030T10027	ME10030	T10027
5	ME10030T10026	ME10030	T10026
6	ME10030T10025	ME10030	T10025
7	ME10030T10024	ME10030	T10024
8	ME10030T10023	ME10030	T10023
9	ME10030T10022	ME10030	T10022
10	ME10030T10021	ME10030	T10021

10. Trainer Table:

	Trainer_ID	Trainer_Name	Skill
1	T10001	Kristopher	Personal
2	T10002	Louann	Personal
3	T10003	Mackenzie	Personal
4	T10004	Junior	Personal
5	T10005	Temika	GroupFitness
6	T10006	Milissa	GroupFitness
7	T10007	Luanne	GroupFitness
8	T10008	Maddie	GroupFitness
9	T10009	Magdalene	GroupFitness
10	T10010	Maribel	GroupFitness
11	T10011	Shenita	GroupFitness
12	T10012	Carol	GroupFitness
13	T10013	Stephaine	Personal
14	T10014	Mavis	Personal
15	T10015	Jeannette	Personal
16	T10016	Jayme	Personal
17	T10017	Santa	GroupFitness
18	T10018	Milagros	GroupFitness
19	T10019	Pattie	GroupFitness
20	T10020	Idell	GroupFitness
21	T10021	Parker	Personal
22	T10022	Philip	Personal
23	T10023	Jannet	Personal
24	T10024	Omega	Personal
25	T10025	Dawn	GroupFitness
26	T10026	Joseph	GroupFitness
27	T10027	Sylvia	Personal
28	T10028	Zoraida	Personal
29	T10029	Mindi	Personal
30	T10030	Zofia	Personal

11. PersonalTraining Table:

	Program_ID	Program_Name	Fitness_Level	BMI	Trainer_ID
1	PG10001	WeightLoss_1	1	18	T10002
2	PG10002	WeightLoss_2	2	22	T10003
3	PG10003	WeightLoss_3	4	17	T10004
4	PG10004	WeightLoss_4	3	16	T10013
5	PG10005	WeightLoss_5	2	34	T10014
6	PG10006	WeightLoss_6	1	31	T10015
7	PG10007	WeightLoss_7	1	32	T10016
8	PG10008	WeightLoss_8	1	33	T10021
9	PG10009	MuscleBuilding_1	2	21	T10022
10	PG10010	MuscleBuilding_2	4	19	T10023
11	PG10011	MuscleBuilding_3	3	34	T10024
12	PG10012	MuscleBuilding_4	2	30	T10027
13	PG10013	MuscleBuilding_5	1	33	T10028
14	PG10014	MuscleBuilding_6	5	34	T10029
15	PG10015	MuscleBuilding_7	1	24	T10030
16	PG10016	MuscleBuilding_8	2	30	T10001
17	PG10017	Cardio_1	2	24	T10002
18	PG10018	Cardio_2	4	35	T10003
19	PG10019	Cardio_3	2	24	T10004
20	PG10020	Cardio_4	2	17	T10013
21	PG10021	Cardio_5	4	16	T10014
22	PG10022	Cardio_6	3	21	T10015
23	PG10023	Cardio_7	4	18	T10016
24	PG10024	Cardio_8	3	17	T10021
25	PG10025	Cardio_9	1	28	T10022
26	PG10026	WeightGain_1	3	29	T10023
27	PG10027	WeightGain_2	1	27	T10024
28	PG10028	WeightGain_3	4	32	T10027
29	PG10029	WeightGain_4	1	17	T10028
30	PG10030	WeightGain_5	1	28	T10029

12. GroupFitnessClass Table:

	Group_ID	Group_Size	Activity_Name	Trainer_ID
1	GP10001	37	Zumba_1	T10005
2	GP10002	47	Zumba_2	T10006
3	GP10003	17	Zumba_3	T10007
4	GP10004	12	Zumba_4	T10008
5	GP10005	18	Zumba_5	T10009
6	GP10006	27	Zumba_6	T10010
7	GP10007	42	Zumba_7	T10011
8	GP10008	17	Zumba_8	T10012
9	GP10009	33	Zumba_9	T10017
10	GP10010	22	Zumba_10	T10018
11	GP10011	26	Zumba_11	T10019
12	GP10012	29	Zumba_12	T10020
13	GP10013	38	Volleyball_1	T10025
14	GP10014	27	Volleyball_2	T10026
15	GP10015	17	Volleyball_3	T10005
16	GP10016	35	Volleyball_4	T10006
17	GP10017	38	Dancing_1	T10007
18	GP10018	23	Dancing_2	T10008
19	GP10019	35	Dancing_3	T10009
20	GP10020	4	Dancing_4	T10010
21	GP10021	50	Dancing_5	T10011
22	GP10022	50	Aerobics_1	T10012
23	GP10023	23	Aerobics_2	T10017
24	GP10024	37	Aerobics_3	T10018
25	GP10025	31	Aerobics_4	T10019
26	GP10026	31	Aerobics_5	T10020
27	GP10027	16	Aerobics_6	T10025
28	GP10028	45	Aerobics_7	T10026
29	GP10029	21	Aerobics_8	T10011
30	GP10030	10	Aerobics_9	T10012

Queries

1,

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425
426 /*1
427     Selecting Manager's Name, Location of the Gym , Employee of the Manager and Role of the
428     Employee by utilizing relationships between Manager,Gymnasium and Employee information
429 */
430
431 SELECT m.Manager_Name
432       ,g.[Location] Gymnasium_Location
433       ,e.Employee_Name
434       ,e.[Role]
435 FROM manager m
436 JOIN employee e ON m.Manager_ID = e.Manager_ID
437 JOIN Gymnasium g on m.Gym_ID=g.gym_id
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Results Messages

	Manager_Name	Gymnasium_Location	Employee_Name	Role
1	Adam	atlantis	Simona	Front desk
2	Boney	alpharetta	Aish	Cleaner
3	Sam	smyma	Rebecca	Cleaner
4	Jim	indiana	Betsy	Cleaner
5	Tom	dunwoody	Ryan	Security
6	Simon	marietta	John	IT Staff
7	Aaron	memphis	Anthony	Security
8	Obama	smyma	Thomas	Cleaner
9	Trump	syracuse	Michiel	Front desk
10	Andrea	buckhead	Simon	Cleaner
11	Bill	buckhead	Aaron	IT Staff
12	Vim	jacksonville	Obama	IT Staff
13	Abraham	costa	Trump	IT Staff
14	Joney	cobb	Andrea	Cleaner
15	Mike	cobb	Bill	Cleaner
16	Simona	downtown	Vim	Security
17	Aish	downtown	Abraham	Front desk
18	Rebecca	texas	Joney	IT Staff
19	Betsy	park	Mike	IT Staff
20	Ryan	stellas	Jamal	Security
21	John	rocky	Jimmey	Cleaner
22	Anthony	lindbergh	Yun	Cleaner
23	Thomas	smoky	Kimothi	Cleaner
24	Michiel	atlantis	Albani	Front desk
25	Jamal	countway	Mohan	Security
26	Jimmey	disneytown	Adam	Cleaner
27	Yun	broadstreet	Boney	Cleaner
28	Kimothi	lillycenter	Sam	Security
29	Albani	smoky	Jim	Cleaner
30	Mohan	atlantis	Tom	Front desk

2,

```
439 --2
440 --Calculating the total capacity of amenities of each gym types by joining gymnasium, provide and amenities tables
441
442 SELECT g.Gym_Type
443       ,sum(a.Capacity) TotalCapacity
444 FROM Gymnasium g
445 JOIN Provide p ON g.Gym_ID = p.Gym_ID
446 JOIN Amenities a ON a.Amenity_ID=p.Amenity_ID
447 GROUP BY g.Gym_Type
448
449
```

99 %

Results Messages

	Gym_Type	TotalCapacity
1	womens	26082
2	mens	28980
3	unisex	31878

3,

```
449 --3
450 --Calculating total active and expired members from members table
451 SELECT m.Membership_Status,count(m.Login_ID)
452 FROM Members m
453 GROUP BY m.Membership_Status
454
```

9 %

Results Messages

	Membership_Status	(No column name)
1	Active	24
2	Expired	6

4,

```
455 --4
456 --Selecting Trainer Name with Skillset
457
458 SELECT t.Trainer_Name,t.Skill
459 FROM Trainer t
460 GROUP BY t.Trainer_Name,t.Skill
461
```

99 %

	Trainer_Name	Skill
1	Carol	Group Fitness
2	Dawn	Group Fitness
3	Idell	Group Fitness
4	Jannet	Personal
5	Jayme	Personal
6	Jeannette	Personal
7	Joseph	Group Fitness
8	Junior	Personal
9	Kristopher	Personal
10	Louann	Personal
11	Luanne	Group Fitness
12	Mackenzie	Personal
13	Maddie	Group Fitness
14	Magdalene	Group Fitness
15	Maribel	Group Fitness
16	Mavis	Personal
17	Milagros	Group Fitness
18	Milissa	Group Fitness
19	Mindi	Personal
20	Omega	Personal
21	Parker	Personal
22	Pattie	Group Fitness
23	Philip	Personal
24	Santa	Group Fitness
25	Shenita	Group Fitness
26	Stephaine	Personal
27	Sylvia	Personal
28	Temika	Group Fitness
29	Zofia	Personal
30	Zoraida	Personal

5,

```
463 --5
464
465 --Estimating the number of active and expired members who added guests by joining memberkit and members table
466
467 SELECT m.Membership_Status, sum(mk.Add_Guest) WhoaddedGuest
468 FROM Members m
469 join MemberKit mk on mk.Login_ID=m.Login_ID
470 group by m.Membership_Status
471
```

99 %

	Membership_Status	WhoaddedGuest
1	Active	10
2	Expired	4

6,

```
473 --6
474
475 -- Selecting all Trainer names who are offering personal training in Cardio programs
476 select distinct t.Trainer_Name, t.Skill
477 from Trainer t
478 where t.Trainer_ID in (select pt.Trainer_ID from PersonalTraining pt
479 where [Program_Name] like '%CARDIO%')
480
```

99 %

	Trainer_Name	Skill
1	Jayme	Personal
2	Jeannette	Personal
3	Junior	Personal
4	Louann	Personal
5	Mackenzie	Personal
6	Mavis	Personal
7	Parker	Personal
8	Philip	Personal
9	Stephaine	Personal

7,

```
482 --7
483 -- Estimating average BMI of all weight loss programs and the name of the trainers offering them
484 select t.Trainer_Name,pt.[Program_Name] , avg(pt.BMI) AVG_BMI
485 from Trainer t
486 join PersonalTraining pt on
487 t.Trainer_ID=pt.Trainer_ID
488 where Program_Name like '%weightloss%'
489 group by t.Trainer_Name,pt.[Program_Name]
```

99 %

	Trainer_Name	Program_Name	AVG_BMI
1	Louann	WeightLoss_1	18
2	Mackenzie	WeightLoss_2	22
3	Junior	WeightLoss_3	17
4	Stephaine	WeightLoss_4	16
5	Mavis	WeightLoss_5	34
6	Jeannette	WeightLoss_6	31
7	Jayne	WeightLoss_7	32
8	Parker	WeightLoss_8	33

8,

```
492 --8
493 --Estimating the group size of each Zumba programs
494 select g.Activity_Name,g.Group_Size
495 from GroupFitnessClass g
496 where g.Activity_Name like '%ZUMBA%'
497
```

99 %

	Activity_Name	Group_Size
1	Zumba_1	37
2	Zumba_2	47
3	Zumba_3	17
4	Zumba_4	12
5	Zumba_5	18
6	Zumba_6	27
7	Zumba_7	42
8	Zumba_8	17
9	Zumba_9	33
10	Zumba_10	22
11	Zumba_11	26
12	Zumba_12	29

9,

```
499 --9
500 -- Investigating the payment type used by expired members who utilized Spa amenity
501
502 select distinct mk.Payment
503 from UsedBy u
504 join Amenities a on a.Amenity_ID=u.Amenity_ID
505 join Members m on m.Member_ID=u.Member_ID
506 join MemberKit mk on mk.Login_ID=m.Login_ID
507 where a.Type='SPA' and m.Membership_Status='EXPIRED'
```

99 %

Results Messages

	Payment
1	Credit
2	Debit
3	Voucher

10,

```
510 --10
511 -- Estimating the number of mens, unisex and womens gyms among all gyms
512
513 select g.Gym_Type, count(g.Gym_Type) Count_of_Gym_Types
514 from Gymnasium g
515 group by g.Gym_Type
```

99 %

Results Messages

	Gym_Type	Count_of_Gym_Types
1	mens	10
2	unisex	11
3	womens	9