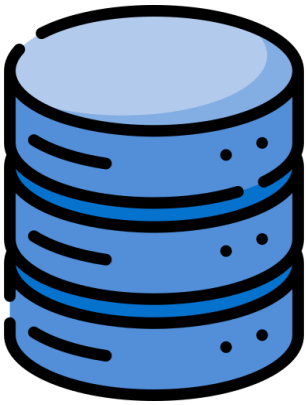
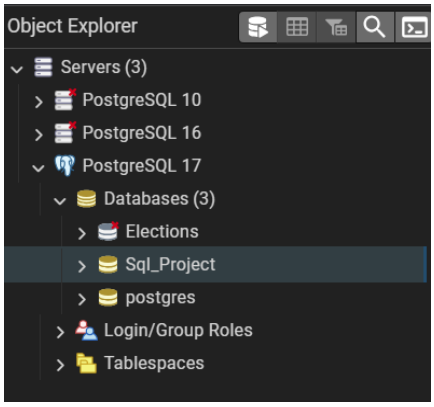
DATABASE NAME: Sql_Project





TABLES(1)

Gym_Tracking

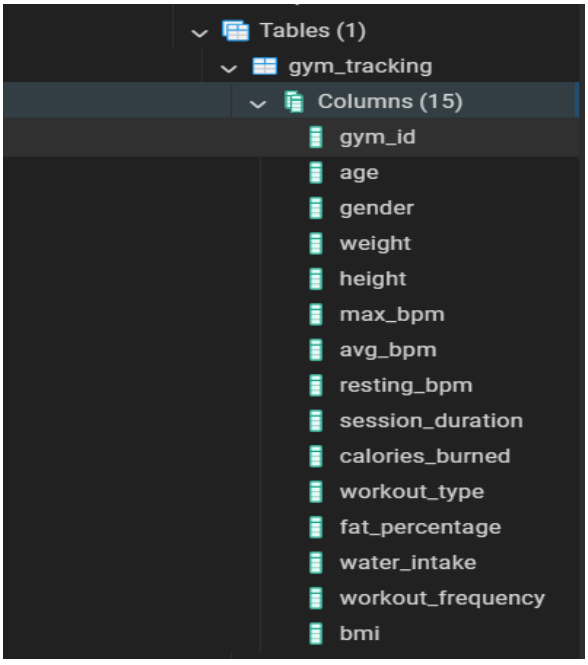


TABLE OVERVIEW

	gym_id integer	age integer	gender character varying (25)	weight double precision	height double precision	max_bpm numeric	avg_bpm numeric	resting_bpm numeric	session_duration double precision	calories_burned numeric
1	1001	56	Male	88.3	1.71	180	157	60	1.69	1313
2	1002	46	Female	74.9	1.53	179	151	66	1.3	883
3	1003	32	Female	68.1	1.66	167	122	54	1.11	677
4	1004	25	Male	53.2	1.7	190	164	56	0.59	532
5	1005	38	Male	46.1	1.79	188	158	68	0.64	556
6	1006	56	Female	58	1.68	168	156	74	1.59	1116
7	1007	36	Male	70.3	1.72	174	169	73	1.49	1385
8	1008	40	Female	69.7	1.51	189	141	64	1.27	895
9	1009	28	Male	121.7	1.94	185	127	52	1.03	719
10	1010	28	Male	101.8	1.84	169	136	64	1.08	808
11	1011	41	Male	120.8	1.67	188	146	54	0.82	593
12	1012	53	Male	51.7	1.7	175	152	72	1.15	865
13	1013	57	Male	112.5	1.61	195	165	61	1.24	1013

workout_type character varying (100)	fat_percentage double precision	water_intake double precision	workout_frequency integer	bmi double precision
Yoga	12.6	3.5	4	30.2
HIIT	33.9	2.1	4	32
Cardio	33.4	2.3	4	24.71
Strength	28.8	2.1	3	18.41
Strength	29.2	2.8	3	14.39
HIIT	15.5	2.7	5	20.55
Cardio	21.3	2.3	3	23.76
Cardio	30.6	1.9	3	30.57
Strength	28.9	2.6	4	32.34
Cardio	29.7	2.7	3	30.07
HIIT	20.5	3	2	43.31
HIIT	23.6	3.5	3	17.89
Cardio	22.1	2.7	3	43.4

QUERIES WITH OUTPUTS

```sql
-- 1. Find Average Age of Gym Members?

select round(avg(age),0) as average_age
from Gym_Tracking;
```

Data Output | Messages | Notifications

	average_age numeric
1	39

```sql
-- 2. Find Average Age of Gym Members Based on Gender?

select Gender,round(avg(age),0) as average_age
from Gym_Tracking
group by Gender;
```

Data Output | Messages | Notifications

	gender character varying (25)	average_age numeric
1	Female	38
2	Male	39

```sql
-- 3.Count the Number of Each Gender?

select Gender,Count(*)
from Gym_Tracking
group by Gender;
```

Data Output | Messages | Notifications

	gender character varying (25)	count bigint
1	Female	462
2	Male	511

```sql
-- 4.Find all Unique Workout Type Categories?

select distinct(Workout_Type) from Gym_Tracking;
```

Data Output | Messages | Notifications

	workout_type character varying (100)
1	Strength
2	Cardio
3	HIIT
4	Yoga

```sql
-- 5.Find Average BMI of both Genders?

select Gender, round(avg(BMI)::numeric,2) as Average_BMI
from Gym_Tracking
group by Gender;
```

Data Output | Messages | Notifications

	gender character varying (25)	average_bmi numeric
1	Female	22.73
2	Male	26.89

```sql
-- 6.Determione Calories Burnt for Each Workout_Type?

select Workout_Type, sum(Calories_Burned) as Total_Calories_Burned
from Gym_Tracking
group by Workout_Type;
```

Data Output | Messages | Notifications

	workout_type character varying (100)	total_calories_burned numeric
1	Strength	234960
2	Cardio	225551
3	HIIT	204603
4	Yoga	215862

```sql
-- 7.Caluclate Average Session_Duration  for Members Aged over 40.

select round(avg(Session_Duration)::numeric,2) as Average_Session
from Gym_Tracking
where age>=40;
```

Data Output | Messages | Notifications

	average_session numeric
1	1.26

```sql
-- 8. Find the Count of Members have a Workout_Frequency  Greater than the Average?

select count(gym_id)
from gym_tracking
where Workout_Frequency>(select avg(Workout_Frequency) from gym_tracking);
```

Data Output | Messages

	count bigint
1	408

```sql
-- 9.Find the Most Common Workout_Type in both Genders?

with GenderWorkoutCount as (
    select Gender,Workout_Type,count(*) as Frequency
    from Gym_Tracking
    group by Gender,Workout_Type
)
select Gender,Workout_Type
from GenderWorkoutCount as gw
where Frequency=(
    select max(Frequency)
    from GenderWorkoutCount
    where Gender=gw.Gender
);
```

Data Output | Messages | Notifications

	gender character varying (25)	workout_type character varying (100)
1	Male	Strength
2	Female	Cardio

```sql
-- 10.Caluclate Average Calories_Burned for each age group (in intervals of 10 years)?

select
    concat(floor((Age-0.1)/10)* 10,'-',floor((Age-0.1)/10)*10+10) as Age_Group,
    round(avg(Calories_Burned),2) as Avg_Calories_Burned
from Gym_Tracking
group by Age_Group
order by Age_Group;
```

Data Output | Messages | Notifications

	age_group text	avg_calories_burned numeric
1	10-20	945.58
2	20-30	952.31
3	30-40	939.58
4	40-50	884.15
5	50-60	832.71

Total rows: 5 of 5 | Query complete 00:00:00.090

```sql
-- 11. Find the Average Calories_Burned for Members with Fat_Percentage Above and Below 25?

select
      case when Fat_Percentage>25 then 'Above 25%' else 'Below 25%' end as Fat_Category,
      round(avg(Calories_Burned),2) as average_calories_burnt
from Gym_Tracking
group by Fat_Category;
```

Data Output | Messages | Notifications

	fat_category text	average_calories_burnt numeric
1	Above 25%	797.39
2	Below 25%	1059.53

```sql
-- 12.Find the highest Calories_Burned for each Workout_Type?

select Workout_Type, max(Calories_Burned) as Maximum_Calories_Burned
from Gym_Tracking
group by Workout_Type
order by Maximum_Calories_Burned;
```

Data Output | Messages | Notifications

	workout_type character varying (100)	maximum_calories_burned numeric
1	Yoga	1582
2	Cardio	1625
3	HIIT	1766
4	Strength	1783

```sql
-- 13.Find the average Max_BPM for members whose Session_Duration is above the median?

with Median_Session_Duration as(
    select percentile_cont(0.5) within group(order by Session_Duration) as Median
    from Gym_Tracking
)
select round(avg(Max_BPM),2) as Average_Max_BPM
from Gym_Tracking,Median_Session_Duration
where Session_Duration>Median;
```

Data Output | Messages | Notifications

	average_max_bpm numeric
1	179.67

```sql
-- 14.Find the Correlation between BMI and Calories_Burned?

select round(corr(BMI,Calories_Burned)::numeric,2) as BMI_Calories_Correlation
from Gym_Tracking;
```

Data Output | Messages | Notifications

	bmi_calories_correlation numeric
1	0.06

```sql
-- 15. Find Top 10 members with the highest Calories_Burned per session?

select gym_id,Calories_Burned
from Gym_Tracking
order by Calories_Burned desc
limit 10;
```

Data Output | Messages | Notifications

	gym_id integer	calories_burned numeric
1	1911	1783
2	1713	1766
3	1512	1725
4	1125	1701
5	1091	1688

Total rows: 10 of 10 | Query complete 00:00:00.071

```sql
-- 16.Find the Average Resting_BPM for Members who perform Cardio more than twice a week?

select round(avg(Resting_BPM),2) as Average_Resting_BPM
from Gym_Tracking
where Workout_Type='Cardio' and Workout_Frequency>2;
```

Data Output | Messages | Notifications

	average_resting_bpm numeric
1	61.53

```sql
-- 17. Determine the average and maximum Session_Duration  for each gender?


select Gender, round(avg(Session_Duration)::numeric,2) as Average_Session_Duration,
    max(Session_Duration) as Maximum_Session_Duration
from Gym_Tracking
group by Gender;
```

Data Output | Messages | Notifications

	gender character varying (25)	average_session_duration numeric	maximum_session_duration double precision
1	Female	1.26	1.99
2	Male	1.25	2

```sql
-- 18.Determine Variation of Average Fat_Percentage across Different Age Groups.

select
    concat(floor((Age-0.1)/10)* 10,'-',floor((Age-0.1)/10)*10+10) as Age_Group,
    round(avg(Fat_Percentage)::numeric,2) as Avg_Fat_Percentage
from Gym_Tracking
group by Age_Group
order by Age_Group;
```

Data Output | Messages | Notifications

	age_group text	avg_fat_percentage numeric
1	10-20	25.64
2	20-30	24.79
3	30-40	24.85
4	40-50	24.90
5	50-60	25.15

Total rows: 5 of 5 | Query complete 00:00:00.062

```sql
-- 19. Identify the relationship between Session_Duration and
--Calories_Burned for members with above-average BMI.

with avg_bmi as (
    select avg(BMI) as Average_BMI
    from Gym_Tracking
)
select Session_Duration,Calories_Burned
from Gym_Tracking,avg_bmi
where BMI>Average_BMI;
```

Data Output | Messages | Notifications

	session_duration double precision	calories_burned numeric
1	1.69	1313
2	1.3	883
3	1.27	895
4	1.03	719
5	1.08	808

Total rows: 437 of 437 | Query complete 00:00:00.097

```sql
-- 20.What is the effect of Water_Intake on Calories_Burned on Workout_Type?

select Workout_Type,round(avg(Water_Intake)::numeric,2) as Average_Water_Intake,
    round(avg(Calories_Burned),2) as Average_Calories_Burned
from Gym_tracking
group by Workout_Type
order by Average_Water_Intake desc;
```

Data Output | Messages | Notifications

	workout_type character varying (100)	average_water_intake numeric	average_calories_burned numeric
1	HIIT	2.65	925.81
2	Yoga	2.64	903.19
3	Cardio	2.62	884.51
4	Strength	2.60	910.70