



📁 Excited to share some of the SQL queries I've been working on as part of my healthcare data analysis project! 📁 Here's a glimpse into the tasks I've tackled using various SQL functions:

- 1 Retrieving patient IDs and ages for all patients using basic SELECT queries 📄
- 2 Selecting female patients over 40 years old with conditional WHERE clauses 👩
- 3 Calculating the average BMI of patients with AVG() function ⚖️
- 4 Listing patients in descending order of blood glucose levels using ORDER BY clause 📉
- 5 Identifying patients with both hypertension and diabetes with logical AND operator 🏥
- 6 Determining the number of patients with heart disease using COUNT() function ❤️
- 7 Grouping patients by smoking history and counting smokers vs. non-smokers with GROUP BY and COUNT() 🚭
- 8 Retrieving patient IDs of those with a BMI greater than average using subqueries and AVG() 📊
- 9 Finding patients with the highest and lowest HbA1c levels with MAX() and MIN() functions 🩸
- 10 Calculating patient ages in years based on current date with TIMESTAMPDIFF() function 📅



```
-- Created a MySQL database named "healthcare".
```

```
create database healthcare;
```

```
/* Created table "diabetes_prediction" with columns: employeename, patient_id, gender, age, hypertension,  
heart_disease,
```

```
smoking_history, bmi, hba1c_level, blood_glucose_level, diabetes*/
```

```
create table diabetes_prediction (employeename varchar(100),  
patient_id varchar(100) , gender varchar(10) , age int ,  
hypertension int , heart_disease varchar(50) , smoking_history varchar(60) ,  
bmi double , hba1c_level double , blood_glucose_level int , diabetes int);
```

```
-- Describes the structure of the "diabetes_prediction" table.
```

```
desc diabetes_prediction;
```

```
-- imported large file using infile command
```

```
LOAD DATA INFILE 'C:\\mysql\\Data\\healthcare\\Copy of Diabetes_prediction.csv'
```

```
INTO TABLE diabetes_prediction
```

```
FIELDS TERMINATED BY ','
```

```
IGNORE 1 LINES
```

```
(employeename, patient_id, gender, age, hypertension, heart_disease, smoking_history, bmi, hba1c_level,  
blood_glucose_level, diabetes);
```



-- 1 retrieve the patient_id and ages of all patients

```
select patient_id , age from diabetes_prediction;
```

-- 2 select all female patients who are older than 40

```
select gender , age from diabetes_prediction where gender = 'female' and age>40;
```

-- 3 calculate the average bmi of patients


```
select avg(bmi) as average_bmi from diabetes_prediction;
```

-- 4 list patients in descending order of blood glucose levels .

```
select employee_name , blood_glucose_level from diabetes_prediction order by blood_glucose_level desc ;
```

-- 5 find patients who have hypertension and diabetes .

```
select employee_name , hypertension , diabetes from diabetes_prediction  
where hypertension=1 and diabetes = 1;
```



```
-- 5 find patients who have hypertension and diabetes .
select employeename , hypertension , diabetes from diabetes_prediction
where hypertension=1 and diabetes = 1;

-- 6 determine the number of patients with heart disease
select count(*) as Total_no_of_heart_disease from diabetes_prediction
where heart_disease=1;

-- 7 group patients by smoking history and count how many smokers and non smokers are there
select smoking_history ,count(*) as Total_no_of_patients from diabetes_prediction
group by smoking_history;

-- 8 retrieve the patient_ids of patients who have a bmi greater than average bmi
select patient_id , bmi from diabetes_prediction where bmi >
(select avg(bmi) from diabetes_prediction);

-- 9 find the patient with the highest hba1c level and the patient with teh lowest hba1c_level
select employeename , patient_id , hba1c_level from diabetes_prediction
where hba1c_level =(select max(hba1c_level) from diabetes_prediction)
union all
select employeename , patient_id , hba1c_level from diabetes_prediction
where hba1c_level =(select min(hba1c_level) from diabetes_prediction);

-- 10 calculate the age of patients in years assuming the current date as of now
select patient_id , employeename , age as age_in_years from diabetes_prediction;
```




```
-- 11 rank patients by blood glucose level within each gender group
select employeeName , gender , blood_glucose_level ,
dense_rank() over (partition by gender order by blood_glucose_level desc ) as rank_no
from diabetes_prediction;

-- 12 update the smoking history of patients who are older than 50 to "ex-smoker ."
update diabetes_prediction set smoking_history = "ex-smoker"
where age > 50 ;

-- 13 insert a new patient into the database with sample data
insert into diabetes_prediction values
('thomas', 'pt759898', ' male', 45,0,0,'never' , 20.31,6.5,190,0);

-- 14 find patients who have hypertension but not diabetes using the except operator
select * from diabetes_prediction where hypertension = 1
except
select * from diabetes_prediction where diabetes = 1;

-- 15 create a view that displays the patient_ids , ages and bmi of patient
create view patient_details as(select patient_id , age , bmi from diabetes_prediction);

select * from patient_details;
```