**The National Health Insurance Claim**

**SQL Report :-**

The purpose of this report is to present the analysis and management of data using Structured Query Language (SQL). SQL is an essential tool for database interaction, widely used in industries for data storage and retrieval. In this project, various SQL operations such as table creation, data insertion, filtering, grouping, and joining have been performed. Through this work, an understanding of database concepts like normalization, primary keys, and relationships between tables has been developed.

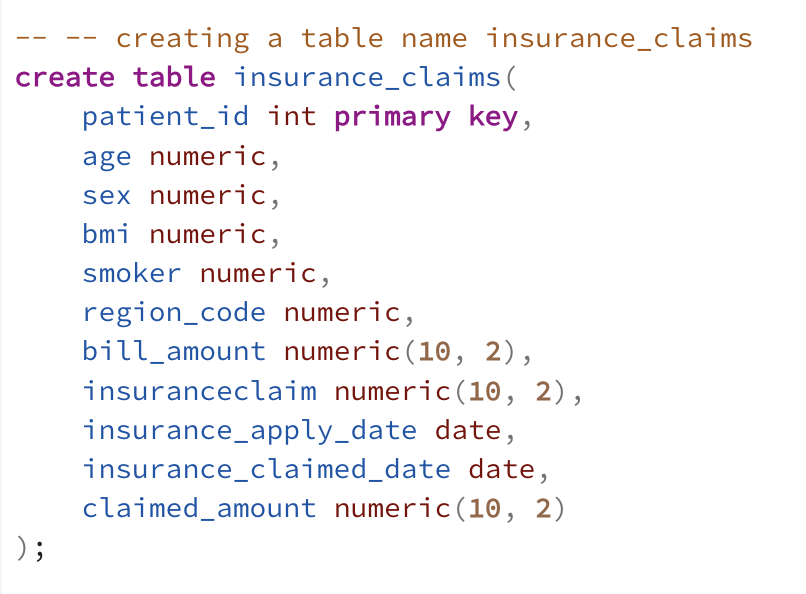
**Dataset** :- [National Health Insurance dataset](https://drive.google.com/drive/folders/17XJ86cTPusRRx0W_CrVH0na9CpQM9Jm9?usp=drive_link)

The Above Dataset contains three table.

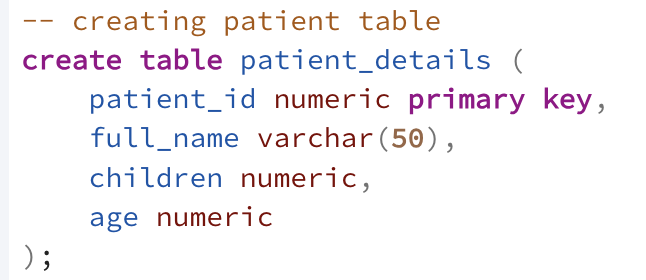
1. Insurance claims
2. Patient details
3. Region

Step 1 :- Creating the tables for each file

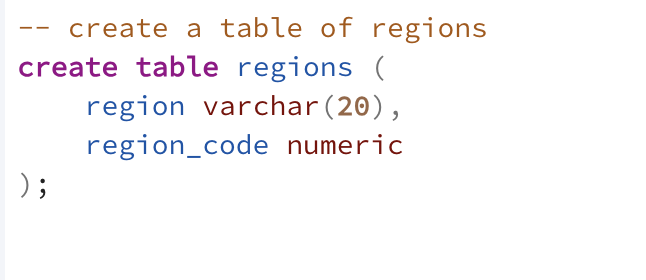
1. Created insurance\_claims table and imported the Insurance\_claims data into it



1. Created patients\_details table and imported the patient details data into it



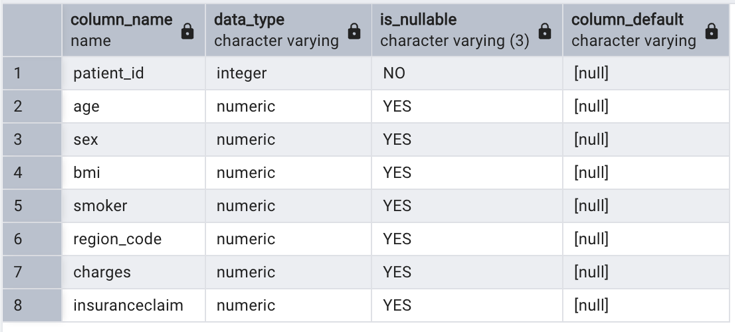
1. Created Regions table and imported the regions data into it



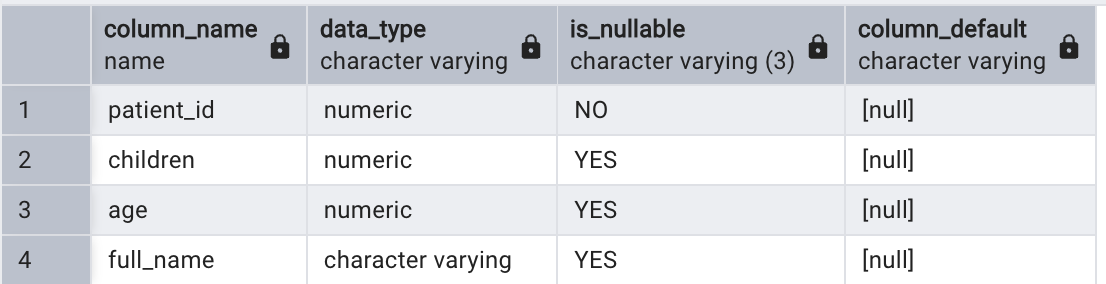
**Step 2** :- Displaying the structure of the table

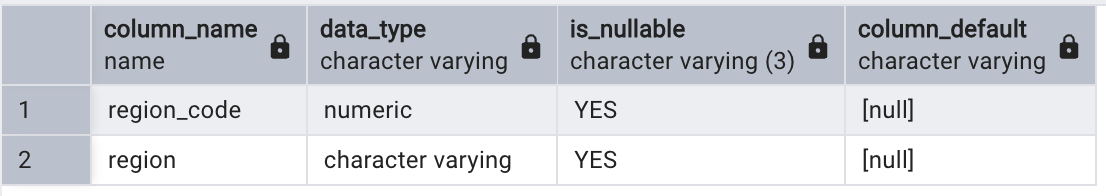
For Describe :-

Insurance\_claim table :-



Patient\_details table :-



Region table :-

For Counting of rows and columns :-

SQL statement :- -- SELECT COUNT(\*) AS total\_rows

FROM insurance\_claims;

SELECT COUNT(\*) AS total\_columns;

FROM information\_schema.columns

WHERE table\_name = ‘insurance\_claims’;

**Step 4** :- Combining all the tables into one table as nhic (National Health Insurance Claims).

SQL statement :-

create table nhic as (

select p.patient\_id, p.full\_name, p.age, p.children, i.sex, r.region\_code, r.region, i.bmi, i.smoker, i.bill\_amount, i.insuranceclaim,i.insurance\_apply\_date, i.insurance\_claimed\_date, i.claimed\_amount

from insurance\_claims i

join patient\_details p

on i.patient\_id = p.patient\_id

left join regions r

on r.region\_code = i.region\_code

);

**Step 5** :- Cleaning of nhic table

Counting of Null values of nhic tables

Select

count(\*) filter(where patient\_id is null) as patient\_id,

count(\*) filter(where full\_name is null) as full\_name,

count(\*) filter(where age is null) as age,

count(\*) filter(where children is null) as children,

count(\*) filter(where sex is null) as sex,

count(\*) filter(where region\_code is null) as region\_code,

count(\*) filter(where region is null) as region,

count(\*) filter(where bmi is null) as bmi,

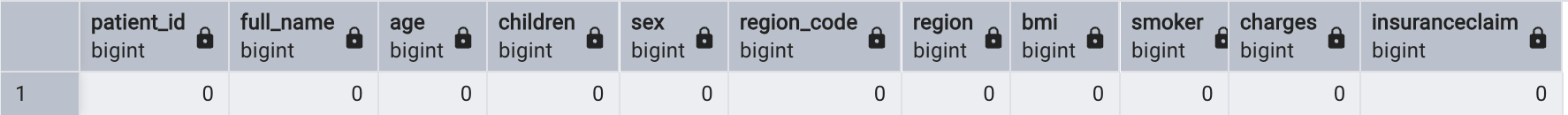
count(\*) filter(where smoker is null) as smoker,

count(\*) filter(where charges is null) as charges,

count(\*) filter(where insuranceclaim is null) as insuranceclaim

from nhic;

After apply those statements we find there are no null values



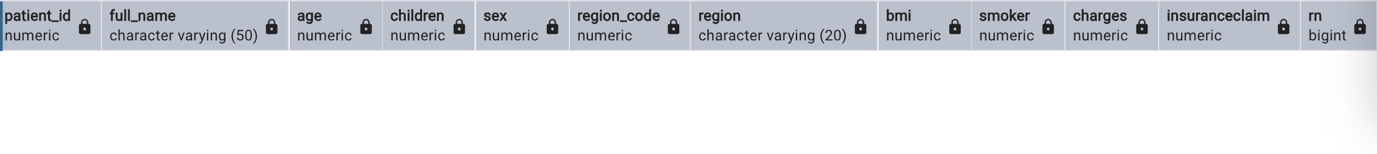
Check for duplicate values

with dup as (select \*,row\_number() over(partition by patient\_id, full\_name, age, children, sex, region\_code, region, bmi, smoker, charges, insuranceclaim order by patient\_id) as rn

from nhic)

select \* from dup

where rn > 1;



Removing Extra Spaces

There are two columns contain text values

We can perform removing the extra spaces

SQL statement :- UPDATE nhic

SET full\_name = TRIM(full\_name),

region = TRIM(region);

Removing the special characters :-

UPDATE nhic

SET full\_name = REGEXP\_REPLACE(full\_name, '[^a-zA-Z0-9\s]', '', 'g'),

region = REGEXP\_REPLACE(region, '[^a-zA-Z0-9\s]', '', 'g');

**step 6** :-

**Add a column amount paid**

alter table nhic

add column amount\_paid numeric(10, 2);

**storing values in that column**

update nhic

set amount\_paid = bill\_amount - claimed\_amount;

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**Add a column Duration :**

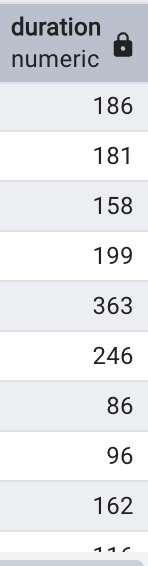
alter table nhic

add column duration numeric;

**storing values in that column :**

update nhic

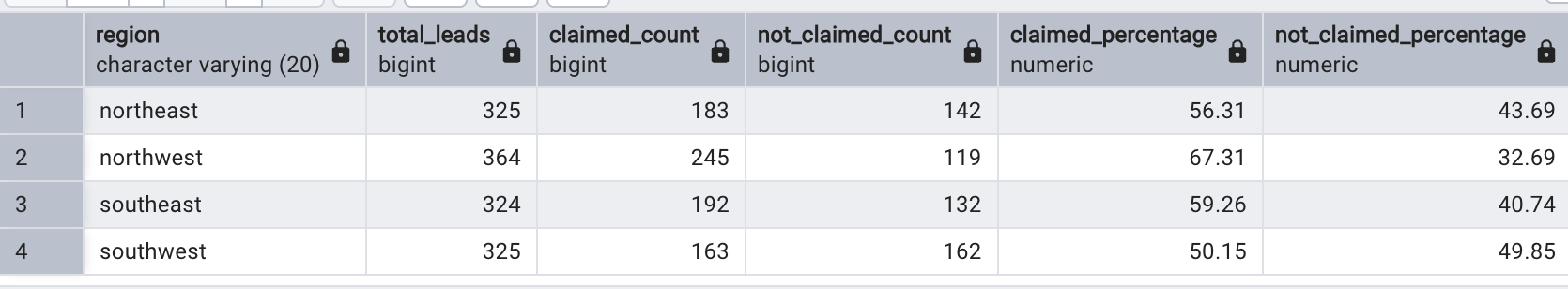
set duration = insurance\_claimed\_date - insurance\_apply\_date;

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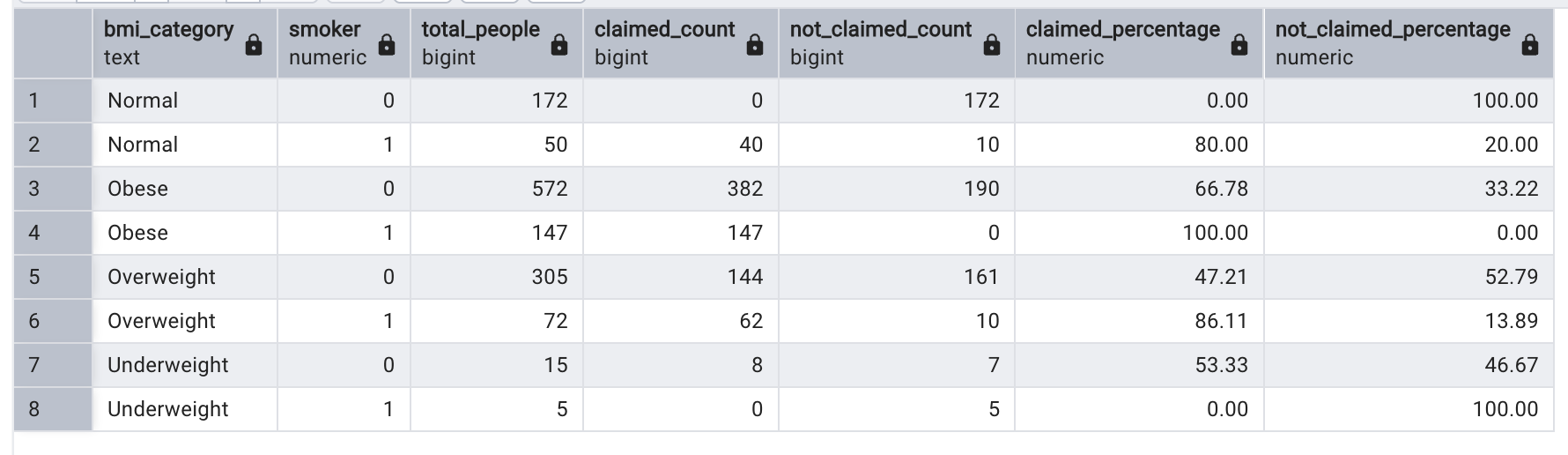
**start and end date of insurance claims**



**wise claimed percentage**

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**smoker and bmi based on Insurance claims :**

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**step 7** :-

conversion of the sql into csv file :-

SQL statement ;- copy nhic TO '/Users/yourname/Downloads/nhic\_cleaned.csv' DELIMITER ',' CSV HEADER;