SQL & EXCEL PROJECT TASK 3 Diabetes Prediction

1. Retrieve the Patient_id and ages of all patients.

```
SELECT Patient_id, age
FROM patient_data;
```

2. Select all female patients who are older than 40.

```
SELECT *
FROM patient_data
WHERE gender = 'Female' AND age>40;
```

3. Calculate the average BMI of patients.

```
SELECT AVG (bmi) AS average_bmi
FROM patient_data;
```

4. List patients in descending order of blood glucose levels.

```
SELECT *
FROM patient_data
ORDER BY blood_glucose_level DESC;
```

5. Find patients who have hypertension and diabetes.

```
SELECT *
FROM patient_data
WHERE hypertension = 1 AND diabetes = 1;
```

6. Determine the number of patients with heart disease.

```
SELECT COUNT (*) AS num_patients_with_heart_disease
FROM patient_data
WHERE heart_disease = 1;
```

7. Group patients by smoking history and count how many smokers and non-smokers there are.

```
SELECT smoking_history, COUNT (*) AS patient_count
FROM patient_data
GROUP BY smoking_history;
```

8. Retrieve the Patient_ids of patients who have a BMI greater than the average BMI.

```
SELECT Patient_id
FROM patient_data
WHERE bmi > (SELECT AVG (bmi) FROM patient_data);
```

9. Find the patient with the highest HbA1c level and the patient with the lowest HbA1clevel.

```
SELECT *
FROM patient_data
ORDER BY HbA1c_level DESC
LIMIT 1;
```

10. Calculate the age of patients in years (assuming the current date as of now).

```
SELECT Patient_id
birthdate,
ROUND((julianday('now')-julianday(birthdate))/365.25) AS age_in_years
FROM patient_data;
```

11. Rank patients by blood glucose level within each gender group.

```
SELECT
Patient_id,
gender,
blood_glucose_level,
RANK () OVER (PARTITION BY gender ORDER BY blood_glucose_level DESC)
AS glucose_rank_within_gender FROM patient_data;
```

12. Update the smoking history of patients who are older than 50 to "Ex-smoker."

```
UPDATE patient_data
SET smoking_history = 'Ex-smoker'
WHERE age>50;
```

13. Insert a new patient into the database with sample data.

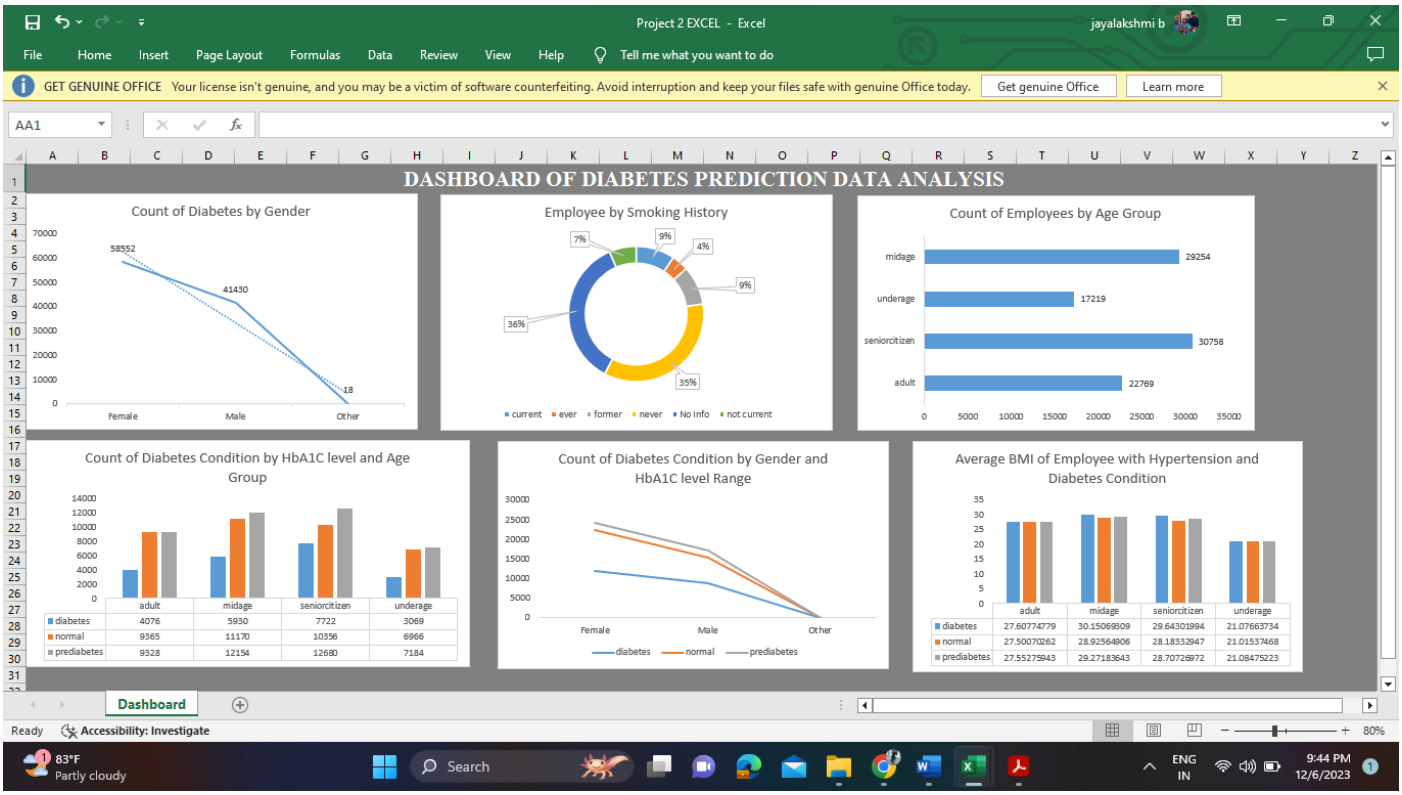
```
INSERT INTO patient_data (EmployeeName, Patient_id,
gender,age, hypertension,
heart_disease, smoking_history,
bmi, HbA1c_level,
blood_glucose_level, diabetes)
VALUES ('NEW PATIENT', 'PT999', 'Male', 60, 1, 0, 'former', 25.5, 6.0, 120, 0);
```

14. Delete all patients with heart disease from the database.

```
DELETE FROM patient_data
WHERE heart_disease = 1;
```

15. Find patients who have hypertension but not diabetes using the EXCEPT operator.

```
SELECT Patient_id
FROM patient_data
WHERE hypertension = 1 AND Patient_id NOT IN (
SELET Patient_id
FROM patient_data
WHERE diabetes = 1
);
```


Project 2 EXCEL - Excel
jayalakshmi b
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AA1
DASHBOARD OF DIABETES PREDICTION DATA ANALYSIS
Count of Diabetes by Gender
58552
41430
18
Female
Male
Other
Employee by Smoking History
7%
9%
4%
9%
36%
35%
current ever former never No Info not current
Count of Employees by Age Group
midage 29254
underage 17219
seniorcitizen 30758
adult 22769
Count of Diabetes Condition by HbA1C level and Age Group
adult midage seniorcitizen underage
diabetes 4076 5930 7722 3069
normal 9365 11170 10356 6966
prediabetes 9328 12154 12680 7184
Count of Diabetes Condition by Gender and HbA1C level Range
Female
Male
Other
diabetes normal prediabetes
Average BMI of Employee with Hypertension and Diabetes Condition
adult midage seniorcitizen underage
diabetes 27.60774779 30.15069809 29.64301994 21.07663734
normal 27.50070262 28.92564906 28.18332947 21.01537468
prediabetes 27.55275943 29.27183643 28.70726972 21.08475223
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