

SQL BASIC QUERIES

Bhoopendravi60@gmail.com

1. Show records of 'male' patients from the 'southwest' region:

- **Query:**

```
SELECT * FROM newdb.insurance
```

```
WHERE gender = 'male' AND region = 'southwest';
```

- **Explanation:** This query retrieves all records from the insurance table where the gender is 'male' and the region is 'southwest'.
-

2. Show all records with BMI between 30 and 45 (both inclusive):

- **Query:**

```
SELECT * FROM newdb.insurance
```

```
WHERE bmi BETWEEN 30 AND 45;
```

- **Explanation:** This query retrieves all records where the BMI value is within the range of 30 to 45, including both values.
-

3. Show the minimum and maximum blood pressure for diabetic patients who smoke:

- **Query:**

```
SELECT MIN(bloodpressure) AS 'MinBP', MAX(bloodpressure) AS 'MaxBP'
```

```
FROM newdb.insurance
```

```
WHERE diabetic = 'yes' AND smoker = 'yes';
```

- **Explanation:** This query shows the minimum (MinBP) and maximum (MaxBP) blood pressure values of patients who are diabetic and smokers.
-

4. Find the number of unique patients not from the 'southwest' region:

- **Query:**

```
SELECT COUNT(DISTINCT patientID)
```

```
FROM newdb.insurance
```

```
WHERE region != 'southwest';
```

- **Explanation:** This query counts the number of distinct (unique) patient IDs for patients who are not from the 'southwest' region.
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5. Calculate the total claim amount for male smokers:

- **Query:**

```
SELECT SUM(claim) AS 'totalClaimAmount'
```

```
FROM newdb.insurance
```

```
WHERE gender = 'male' AND smoker = 'yes';
```

- **Explanation:** This query calculates the total claim amount for male patients who smoke.
-

6. Select all records of patients from any 'south' region:

- **Query:**

```
SELECT * FROM newdb.insurance
```

```
WHERE region LIKE '%south%';
```

- **Explanation:** This query retrieves all records for patients whose region contains the word 'south' (e.g., 'southwest', 'southeast').
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7. Find the number of patients with normal blood pressure (90-120):

- **Query:**

```
SELECT COUNT(*)
```

```
FROM newdb.insurance
```

```
WHERE bloodpressure BETWEEN 90 AND 120;
```

- **Explanation:** This query counts how many patients have blood pressure values between 90 and 120, which is considered the normal range.
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8. Find the number of patients below 17 years of age with normal blood pressure:

- **Query:**

```
SELECT COUNT(*)
```

```
FROM newdb.insurance
```

```
WHERE bloodpressure BETWEEN 80 + (age * 2) AND 100 + (age * 2) AND age < 17;
```

- **Explanation:** This query counts how many patients under 17 years old have blood pressure within a normal range, based on the formula: $80 + (\text{age} \times 2)$ to $100 + (\text{age} \times 2)$.
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9. Find the average claim amount for non-smoking female diabetic patients:

- **Query:**

```
SELECT AVG(claim) AS 'avgClaimAmount'
```

```
FROM newdb.insurance
```

```
WHERE gender = 'female' AND smoker = 'no' AND diabetic = 'yes';
```

- **Explanation:** This query calculates the average claim amount for female patients who do not smoke and are diabetic.
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10. Update the claim amount for the patient with PatientID = 1234 to 5000:

- **Query:**

```
UPDATE newdb.insurance
```

```
SET claim = 5000
```

```
WHERE patientID = 1234;
```

- **Explanation:** This query updates the claim amount to 5000 for the patient with PatientID = 1234.
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11. Delete records for smokers with no children:

- **Query:**

```
DELETE FROM newdb.insurance
```

```
WHERE children = 0 AND smoker = 'yes';
```

- ✓ These notes summarize each SQL query along with a simple explanation, making it easier to understand the purpose and functionality of each one.