

# **SQL Micro Course Answer PDF**

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## **1. Total Number of Patients**

**(Write an SQL query to find the total number of patients across all hospitals)**

```
SELECT SUM(Patients_count) AS total_patients  
FROM hospital_data;
```

## **2. Average Number of Doctors per Hospital**

**(Retrieve the average count of doctors available in each hospital)**

```
SELECT AVG(Doctors_Count) AS Avg_Doctors_per_Hospital  
FROM hospital_data;
```

## **3. Top 3 Departments with the Highest Number of Patients**

**(Find the top 3 hospital departments that have the highest number of patients)**

```
SELECT Department,  
       SUM(Patients_count) AS total_patients  
  FROM hospital_data  
 GROUP BY Department
```

```
ORDER BY total_patients DESC
```

```
LIMIT 3;
```

## **4. Hospital with the Maximum Medical Expenses**

**(Identify the hospital that recorded the highest medical expenses)**

```
SELECT Hospital_Name,  
       SUM(Medical_Expenses) AS Max_Medical_Expenses
```

```
FROM hospital_data
```

```
GROUP BY Hospital_Name
```

```
ORDER BY Max_Medical_Expenses DESC
```

```
LIMIT 1;
```

## **5. Daily Average Medical Expenses**

**(Calculate the average medical expenses per day for each hospital)**

```
SELECT Hospital_Name,
```

```
       Admission_Date,
```

```
       AVG(Medical_Expenses) AS avg_daily_expenses
```

```
FROM hospital_data
```

```
GROUP BY Hospital_Name, Admission_Date
```

```
ORDER BY Hospital_Name, Admission_Date;
```

## **6. Longest Hospital Stay**

**(Find the patient with the longest stay by calculating the difference between Discharge Date and Admission Date)**

```
SELECT Hospital_Name,  
       Department,  
       Admission_Date,  
       Discharge_Date,  
       DATEDIFF(Discharge_Date, Admission_Date) AS stay_days  
FROM hospital_data  
ORDER BY stay_days DESC  
LIMIT 1;
```

## **7. Total Patients Treated Per City**

**(Count the total number of patients treated in each city)**

```
SELECT Location,  
       COUNT(Patients_Count) AS Total_Patients  
FROM hospital_data  
GROUP BY Location  
ORDER BY Total_Patients DESC;
```

## **8. Average Length of Stay Per Department**

**(Calculate the average number of days patients spend in each department)**

```
SELECT Department,  
       AVG(DATEDIFF(Discharge_Date, Admission_Date)) AS Avg_Days  
FROM hospital_data  
WHERE  
      Discharge_Date >= Admission_Date  
GROUP BY Department  
ORDER BY Avg_Days DESC;
```

## **9. Identify the Department with the Lowest Number of Patients**

**(Find the department with the least number of patients)**

```
WITH patient_counts AS (  
    SELECT Department, COUNT(*) AS total_patients  
    FROM hospital_data  
    GROUP BY Department  
)  
SELECT Department, total_patients  
FROM patient_counts  
WHERE total_patients = (SELECT MIN(total_patients) FROM patient_counts);
```

## **10. Monthly Medical Expenses Report**

**(Group the data by month and calculate the total medical expenses for each month)**

```
SELECT DATE_FORMAT(Admission_Date, '%Y,%m') AS Month,  
       SUM(Medical_Expenses) AS Total_med_Expenses  
  FROM hospital_data  
 GROUP BY Month  
 ORDER BY Total_med_Expenses;
```