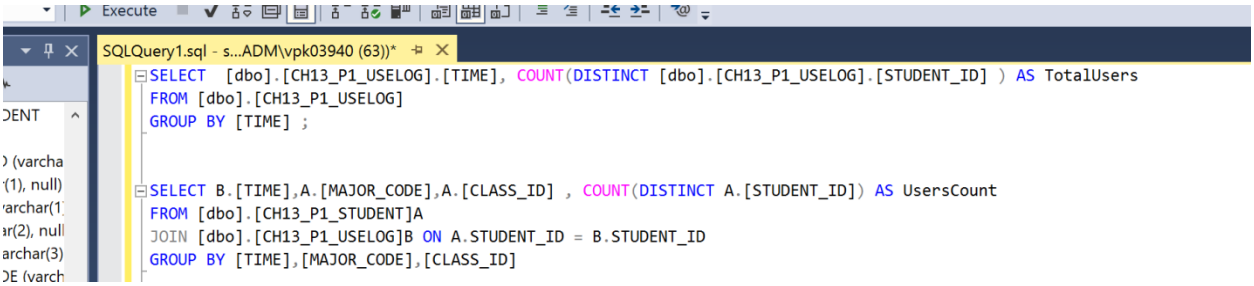
Parth Kapoor-




```sql
SELECT [MAJOR_CODE],[TIME] , SUM(UsersCount) AS TotalUsers
FROM (
    SELECT A.[MAJOR_CODE], B.[TIME], COUNT(DISTINCT A.[STUDENT_ID]) AS UsersCount
    FROM [dbo].[CH13_P1_STUDENT]A
    JOIN [dbo].[CH13_P1_USELOG] B ON A.STUDENT_ID = B.STUDENT_ID
    GROUP BY A.MAJOR_CODE, B.TIME
) AS Subquery
GROUP BY [MAJOR_CODE] , [TIME];
```

a. Main Facts to be Analyzed:

Lab Usage:

This is the central fact that you want to analyze. It can include measures such as the number of students accessing the lab, session duration, and other relevant metrics.

Fields: LogID, TimeID, StudentID, LabAccessCount, SessionDuration, etc.

b. Appropriate Dimensions:

Time Dimension:

Attributes:

TimeID (Primary Key)

Date

Day

Month

Quarter

Year

This dimension allows analysis by different time periods.

Student Dimension:

Attributes:

StudentID (Primary Key)

StudentName

Major

Classification (e.g., Freshman, Sophomore, Junior, Senior)

This dimension allows analysis by student-related characteristics.

Lab Location Dimension (Assumed):

Attributes:

LocationID (Primary Key)

LabName

Building

RoomNumber

This dimension could be useful if you want to analyze lab usage by location.

Additional Dimensions (if needed):

Depending on the specific requirements, you might consider additional dimensions such as:

Session Type Dimension:

Attributes: SessionTypeID, SessionType

This could capture different types of lab sessions (e.g., tutoring, open lab, class sessions).

Course Dimension:

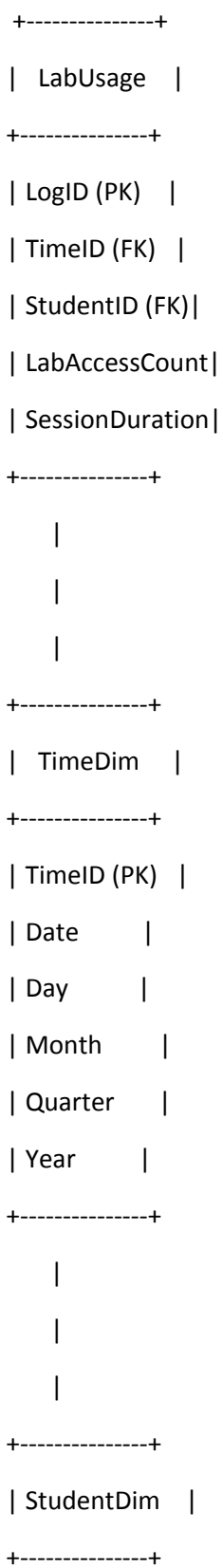
Attributes: CourseID, CourseName, Department

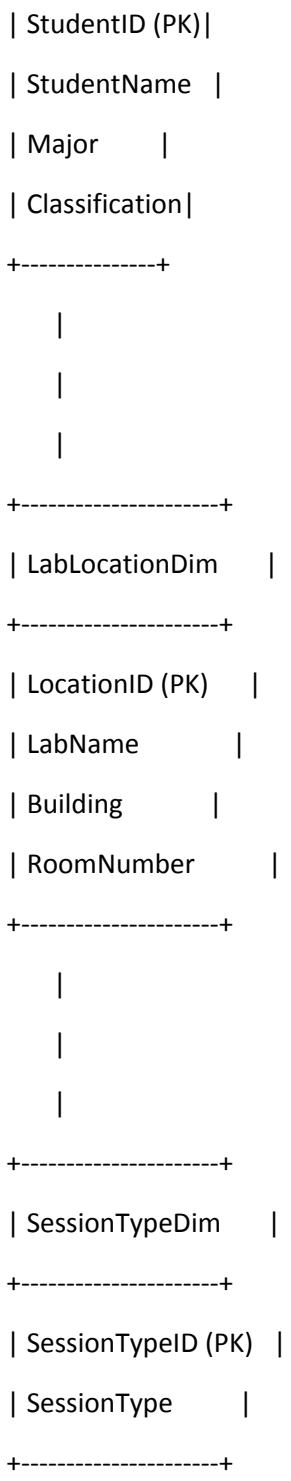
If there's a need to analyze lab usage by specific courses.

Instructor Dimension:

Attributes: InstructorID, InstructorName

If lab usage needs to be analyzed based on the instructor.


LabUsage
LogID (PK)
TimeID (FK)
StudentID (FK)
LabAccessCount
SessionDuration
TimeDim
TimeID (PK)
Date
Day
Month
Quarter
Year
StudentDim


| StudentID (PK)|
| StudentName |
| Major |
| Classification|
+----------+
|
|
|
+----------+
| LabLocationDim |
+----------+
| LocationID (PK) |
| LabName |
| Building |
| RoomNumber |
+----------+
|
|
|
+----------+
| SessionTypeDim |
+----------+
| SessionTypeID (PK) |
| SessionType |
+----------+

Attributes for Each Dimension:

TimeDim:

TimeID (Primary Key)

Date

Day

Month

Quarter

Year

StudentDim:

StudentID (Primary Key)

StudentName

Major

Classification

LabLocationDim:

LocationID (Primary Key)

LabName

Building

RoomNumber

SessionTypeDim:

SessionTypeID (Primary Key)

SessionType

Attribute Hierarchies:

TimeDim:

Year > Quarter > Month > Day > Date

StudentDim:

Major > Classification

LabLocationDim:

Building > RoomNumber > LabName

SessionTypeDim:

SessionType