



Vidyavardhini's College of Engineering and Technology
Department of Artificial Intelligence & Data Science

AY: 2024 - 25

Class:	TE	Semester:	V
Course Code:	CSC504	Course Name:	DWM

Name of Student:	Saineth Khot
Roll No. :	20
Assignment No.:	1
Title of Assignment:	
Date of Submission:	
Date of Correction:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Completeness	5	3
Demonstrated Knowledge Legibility	3	3
Legibility	2	2
Total	10	8

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Completeness	5	3-4	1-2
Demonstrated Knowledge Legibility	3	2	1
Legibility	2	1	0

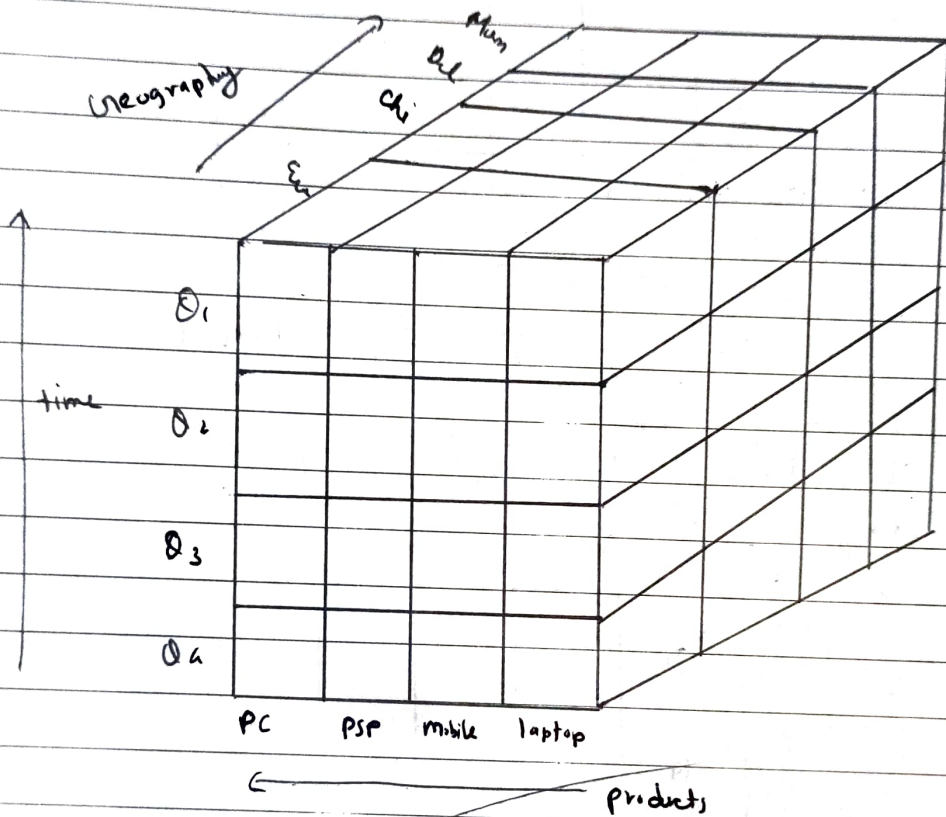
Checked by

Name of Faculty : Miss Neha Raut

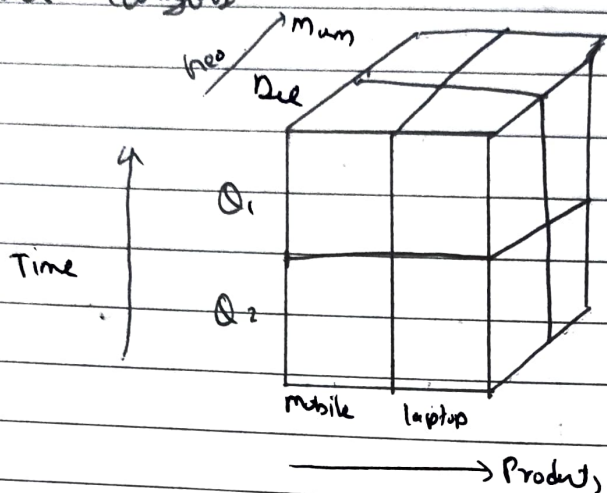
Signature :

Date :

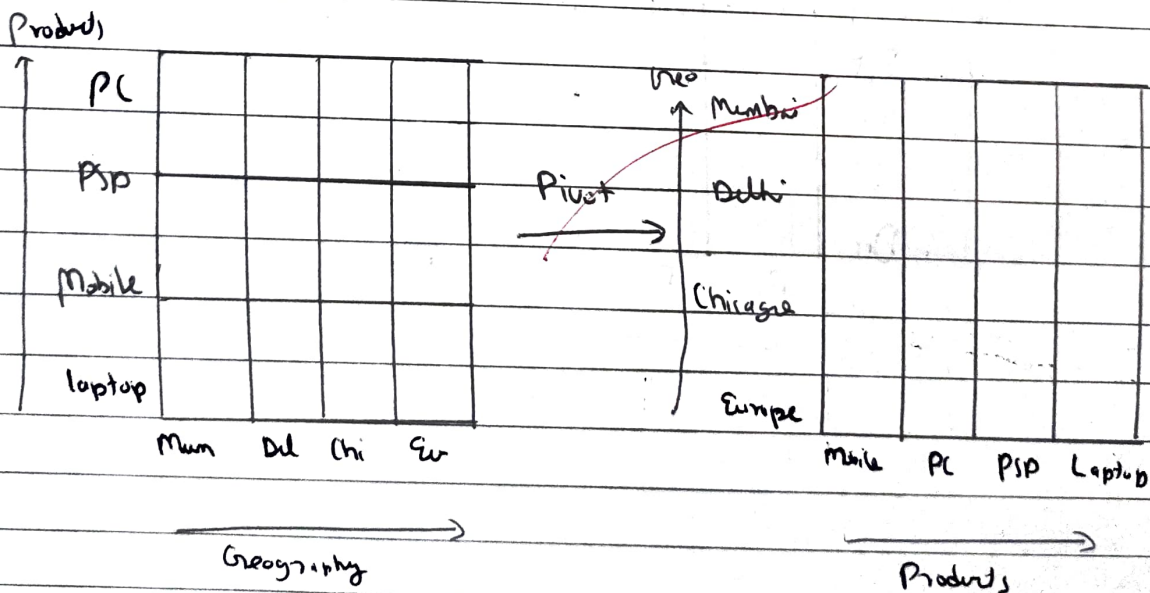
Q. Given a sales cube with dimensions such as Time, Product and Geography, describe how you would perform the following operations: roll-up to see yearly sales, drill down to see daily sales for a specific month, slice to view sales for a specific product - centric or region centric.



iv) Dice To view Sales for a specific region & product categories



v) Pivot To change the view from product centric to region centric



2 Create a Star schema & snowflake schema for an online book-store. Define the fact table, dimension table & any sub dimension table. Explain relationship between them.

Book Dimension

Book ID (PK)

Title

Author

Publisher

Genre

Customer Dimension

Customer ID (PK)

First name

Last name

Email

Phone

Address

Sales Fact

Sales ID

Book ID

Customer ID

Date ID

Store ID

Quantity

Date Dimension

Date ID (PK)

Date

Day

Month

Year

Quarter

Store Dimension

Store ID

Store Name

Store Location

Store Manager

Store Type

2)

Snowflake

Author Dimension

Author ID (PK)

Author Name

Address Dimension

Address ID

Street

City

State

Country

Book Dimension

Book ID

Title

Genre

Publisher

Customer Dimension

Customer ID

First Name

Email

Phone

Address ID

Sales Fact

Sales ID

Book-id

Customer-id

Store-id

Quantity

Store Dimension

Store ID (PK)

Store Name

Store Location-id

Store Manager

Store Type

Date Dim

Date-id

Date

Day

Month ID

Year

Week Day

Month Dimension

Month ID (PK)

Month Name

Store Location Dimension

Store Location id

City

Store

Relationship -

- 1) **Star Schema Relationship**: The sales fact table is connected to each dimension table (Book, customer, Date, store) through foreign keys. Each dimension table contains detailed attributes about that dimension.
- 2) **Snowflake Schema Relationship**: The sales fact table is connected to the main dimension tables (Book, customer, date, store) through foreign keys. Main Dimension tables (Book, customer, Date, store) are further normalized by breaking them into sub-dimension tables (eg Author, Month, store location). Each sub-dimension table is connected to its corresponding main dimension table through foreign keys.

Q3

For hospital. Design fact constellation schema that includes fact tables for patient admissions, treatments and billing

Date Dim

Date-id

Date

Day

Month

Year

Week Day

Patient Dimension

Patient ID (PK)

First name

Last name

Gender

Address

City

State

Country

Patient Admission Fact

Admission-id (PK)

Patient-id (FK)

Doctor-id (FK)

Department-id (FK)

Room-id (FK)

Date-id (FK)

Administrator type

Room Dim

Room id

Room no

Room Type

Floor

Dept Dim

Dept-id

Dept Name

Location