

Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

AY: 2025-26

Class:	TENON	Semester:	I
Course Code:	CSC 504	Course Name:	Data warehousing & mining

Name of Student:	Pranita kumbhar
Roll No. :	70
Assignment No.:	01
Title of Assignment:	Build a data warehouse with dimensional modelling concepts of OLAP operations.
Date of Submission:	
Date of Correction:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Completeness	5	5
Demonstrated Knowledge	3	3
Legibility	2	2
Total	10	(0

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 : Ms. Neha Raut.

Signature

Date

4				
Q.1]	Draw schemas for "Hotel Occupancy"			
	i] Design star and snowflake schema for "Hotel			
100	Occupancy "considering dimensions like Time, Hotel,			
no.	Room, etc.			
	ii] Calculate the maximum number of base fact table			
mant o	records for the value given below.			
1 tongo	Time period: 5 years			
H A	Hotels: 150	agent totall		
	Rooms: 750 rooms in each Hotel (about 400 occupied			
A Stora	in each hotel dai		asir 91	
\rightarrow	Hotel Dimension * Star Schema Room dimension			
700	Room		Roomid	
	Dimension		Room type	
-	Hotel name		Max occupant	
anion!	Hotel type	Hotel Occupancy	No of beds	
	Star rating	Fact table.	Room side	
I doubt	Region	Hotel name	A/c non a/c	
All man	Cîty	Room id	Renovation year.	
	State	Customer id		
	Zone	Date	Time Dimension	
	Country	No of occupied	Date	
	tall	Rooms	Day of week	
	Customer Dimension	No of vacant	Day of month	
	Customer name	Rooms	Week	
	Address		Month	
	Type of stay		Quarter	
	Check in		Half	
	Checkout		Year	
	Amount paid		Holiday	

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* Snowflake Schema

+		MARINE MARINE		
	Track and	Hotel	Carrier San	Room
-		Dimension	544	Dimension
-	Lot Isal spend	Room	in same of to realize	Room id
-		Dimension	AND THE REAL PROPERTY.	Room type
-		Hotel name	Hotel	Maxoccupant
-		Hotel type	Occupancy	No of beds
+		Star rating	Fact table	Room side
+	Region	0	Hotel name	A/C non a/c
-	Dimension		Roomid	Renovation
1	Region		Customer id	_ year
1	Cfty		Date	
+	State		No-of occupied	Time
-	Zone	Customer	Rooms	Dimension
+	Country	Dimension	No of vacant	Date
1	Lala I	Customer name	revenue	Day of Week
	Levens 3	Address	. 13	Day of month
-		Type of stay	11017	Week
-	M. Amili	Check in	Towns of the same of	Month
-		Checkout	The state of	Quarter
	west .	Amount paid		Half
	The state of the s	- Lander Committee Committ	I de la constitución de la const	Year
		amin's	A STATE OF THE STA	Holiday
1				1

ii] Calculation of maximum Number of Base
Fact Table Records

Given:

Time Period = 5 years

Hotels = 150

Rooms per Hotel = 750

Occupied Rooms daily = 400

ble assume one occupancy record per room per day

Calculate total days:

5 years x 365 days / year = 1825 days

Total Occupied Records:

150 hotels × 400 rooms/day × 1825 days = 109500000 records.

· The maximum number of base fact table records is 109500000.



9.2]	The college wants to record the marks for the courses
	completed by students using the dimensions: course,
	Student, Time and a measure of Aggregate marks.
	Create a Cube and describe following OLAP operations:
	al Rolling

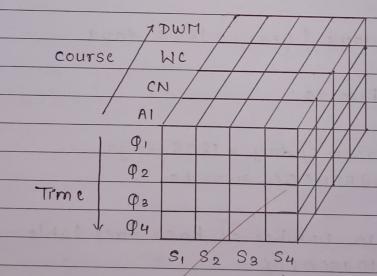
b] Drill down

c] Slice

d] Dice

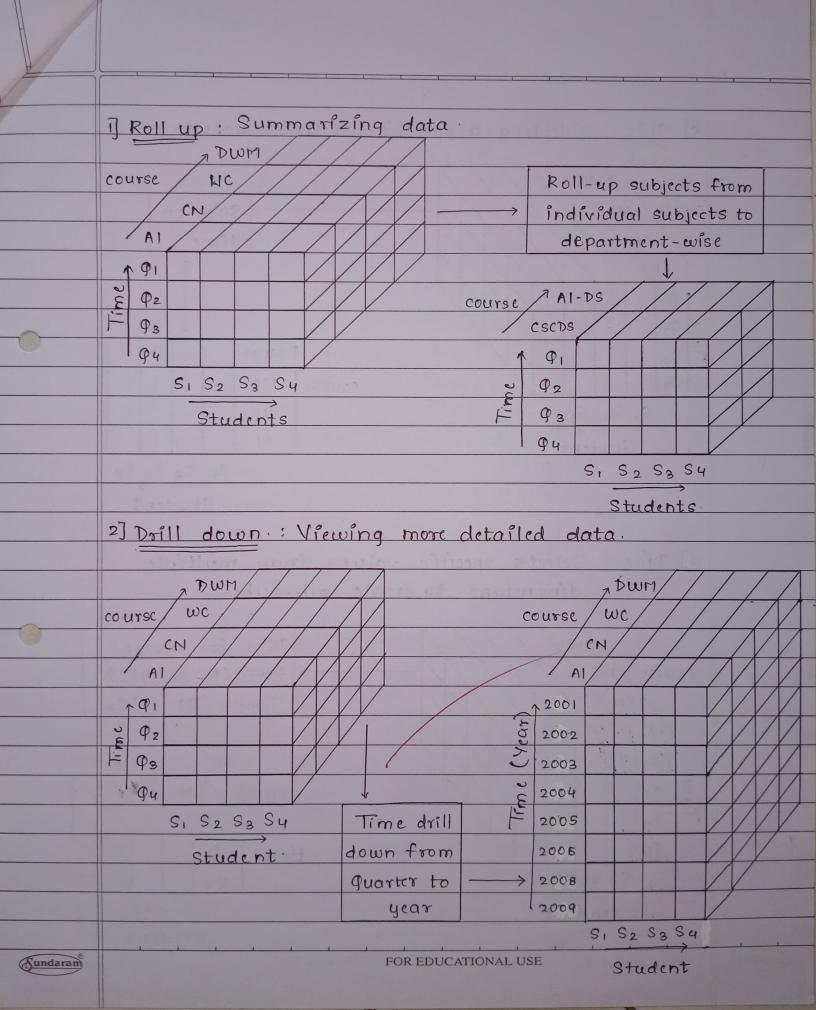
el Pivot.

Fact: marks - obtained : Aggregate marks: Dimensions: course, student and time.

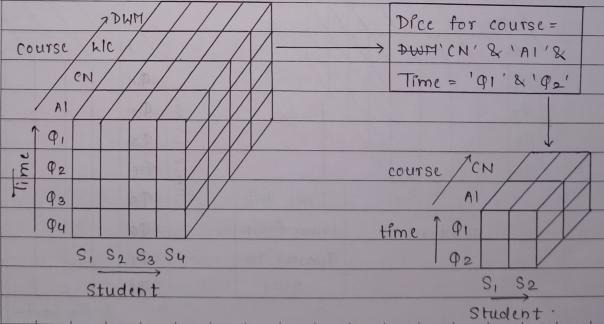


Students

Initialize cube.



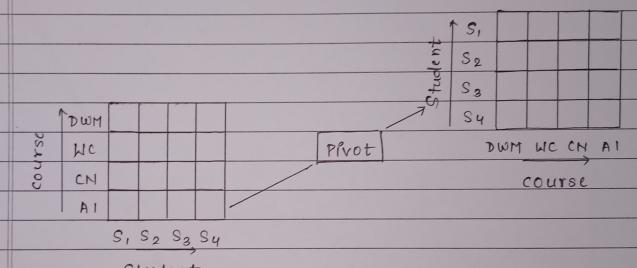
e] Slice: Selecting a specific dimension value. course Slice on CH time 1 DWM 194 MC course S, S2 S3 S4 CN Student AI S1 S2 S3 S4 Student d] Dice: Selects specific values from multiple dimensions to create sub-cube. 2 DWM, Dice for course = > DWM'CN' & 'AI'& Course



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e] Pivot: Rotates the data view to provide alternative presentations of the data démensions.



Student