

SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE

Chembur, Mumbai - 400 088 UG Program in Cyber Security

	E	xperimen	t Number:	2	
Date of Perfor	mance:				
Date of Submis	ssion:				
Program	Documentation	Timely	Viva Answer	•	Sign
Execution/	(02)	Submission	to sample	Total (15)	
formation/		(03)	questions		
correction/			(03)		
ethical					
practices (07)					



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Experiment 2

Aim: Implementation of Dimensional and Fact table based on case study one.

Lab outcomes: CSL 503.1: Design data warehouse and perform various OLAP operations.

Problem Statement: Implement the Dimensional table & Fact table.

Theory:

<u>Star schema</u>: Star Schema in data warehouse, in which the centre of the star can have one fact table and a number of associated dimension tables. It is known as star schema as its structure resembles a star.

<u>Snowflake schema</u>: Snowflake Schema in data warehouse is a logical arrangement of tables in a multidimensional database such that the <u>ER diagram</u> resembles a snowflake shape. A Snowflake Schema is an extension of a Star Schema, and it adds additional dimensions. The dimension tables are normalized which splits data into additional tables.

Program Listing and Output:

Star schema

Creation of Fact table

	Field	Type	Null	Key	Default	Extra
•	Item_key	int	YES	MUL	NULL	
	Cons_key	int	YES	MUL	NULL	
	Buyer_key	int	YES	MUL	HULL	
	Time_id	int	YES	MUL	NULL	
	Low_estimate	int	YES		NULL	
	High_estimate	int	YES		NULL	
	Reserved_price	int	YES		NULL	



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insert into fact_table values (101,1,10,1,20,50,35); insert into fact table values (111,2,11,2,1000,1500,1200);

R	esult Grid	Filte	r Rows:		Export:	Wrap Cell Conf	tent: ‡A
	Item_key	Cons_key	Buyer_key	Time_id	Low_estimate	High_estimate	Reserved_price
•	101	1	10	1	20	50	35
	102	1	11	2	10	25	20
	101	1	10	1	1200	1499	1350

Creation of Item table

Create table Item_table (Item_key int(20), Item_name varchar(20), Item no int(20), Department varchar(20),

Sold_flag varchar(20)

varchar(20)

); Field Type Null Key Default Extra NULL Item_key int YES NULL Item_name varchar(20) YES NULL YES Item_no NULL Department varchar(20) YES NULL

insert into item table values (101,'cookies',10,'Snacks','India');

YES



Creation of Buyer table

Sold_flag

```
Create table Buyer_table (
        Buyer key int(20),
        Buyer_name varchar(20),
        Buyer no int(20), Buyer type
       varchar(20), Buyer_state
       varchar(20), Buyer_city
       varchar(20), Buyer_country
       varchar(20), Buyer_pin int(10)
       );
```



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	Field	Туре	Null	Key	Default	Extra
•	Buyer_key	int	YES		NULL	
	Buyer_name	varchar(20)	YES		NULL	
	Buyer_no	int	YES		NULL	
	Buyer_type	varchar(20)	YES		NULL	
	Buyer_state	varchar(20)	YES		NULL	
	Buyer_city	varchar(20)	YES		NULL	
	Buyer_country	varchar(20)	YES		NULL	
	Buyer_pin	int	YES		NULL	

insert into Buyer_table values (010,'Ramesh',1,'Student','Maharashtra','Mumbai','India',28); insert into Buyer_table values (011,'Sahil',2,'Student','Maharashtra','Mumbai','India',12); insert into Buyer_table values (112,"Alex",10,"Faculty","Maharashtra","Pune","India",128);

	Buyer_key	Buyer_name	Buyer_no	Buyer_type	Buyer_state	Buyer_city	Buyer_country	Buyer_pin
•	10	Ramesh	1	Student	Maharashtra	Mumbai	India	28
	11	Sahil	2	Student	Maharashtra	Mumbai	India	12
	112	Alex	10	Faculty	Maharashtra	Pune	India	128

Creation of Consigner table

	Field	Type	Null	Key	Default	Extra
١	Cons_key	int	YES		NULL	
	Cons_name	varchar(20)	YES		NULL	
	Cons_code	int	YES		NULL	
	Cons_type	varchar(20)	YES		NULL	
	Cons_state	varchar(20)	YES		NULL	
	Cons_city	varchar(20)	YES		NULL	
	Cons_country	varchar(20)	YES		NULL	
	Cons_pin	int	YES		NULL	

insert into Consigner_table values (01,"TCL",201,"Domestic","Maharashtra","Mumbai","India", 28); insert into Consigner_table values (02,"TCL",202,"Domestic","Maharashtra","Mumbai", "India", 12); insert into Consigner_table values (22,"Global",252,"Domestic","Maharashtra","Pune", "India", 128);



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	Cons_key	Cons_name	Cons_code	Cons_type	Cons_state	Cons_city	Cons_country	Cons_pin
•	1	TCL	201	Domestic	Maharashtra	Mumbai	India	28
	2	TCL	202	Domestic	Maharashtra	Mumbai	India	12
	22	Global	252	Domestic	Maharashtra	Pune	India	128

Creation of Time table

Create table Time (

Time_id int(20),

Date date,

Month varchar(10),

Quarter varchar(10),

Year varchar(10)

);

	Field	Туре	Null	Key	Default	Extra
•	Time_id	int	YES		NULL	
	Date	date	YES		NULL	
	Month	varchar(10)	YES		NULL	
	Quarter	varchar(10)	YES		NULL	
	Year	varchar(10)	YES		NULL	

insert into Time values (1,20230102,"Jan","Q1",2023); insert into Time values (2,20230204,"Feb","Q1",2023); insert into Time values (3,20230617,"Jun","Q2",2023); insert into Time values (4,20231208,"Dec","Q4",2023);

	Time_id	Date	Month	Quarter	Year
١	1	2023-01-02	Jan	Q1	2023
	2	2023-02-04	Feb	Q1	2023
	3	2023-06-17	Jun	Q2	2023
	4	2023-12-08	Dec	04	2023



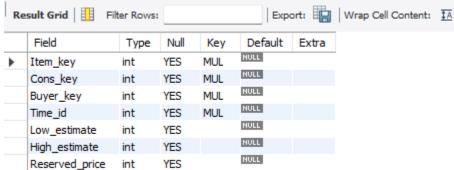
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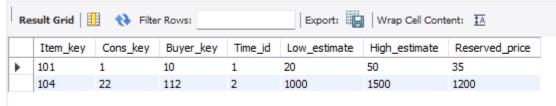
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Snowflake schema

Creation of Fact table



insert into fact_table values (101,01,010,1,20,50,35); insert into fact_table values (104,22,112,2,1000,1500,1200);



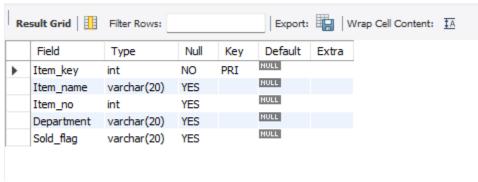
Creation of Item table



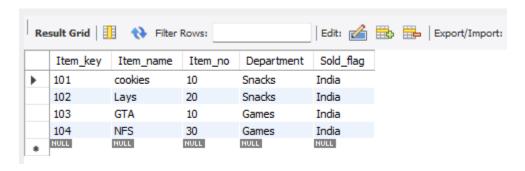
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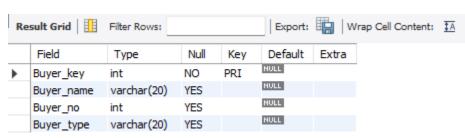


insert into item_table values (101,'cookies',10,'Snacks','India'); insert into item_table values (102,'Lays',20,'Snacks','India'); insert into item_table values (103,'GTA',10,'Games','India'); insert into item_table values (104,'NFS',30,'Games','India');



Creation of Buyer table

Create table Buyer_table (
Buyer_key int(20),
Buyer_name varchar(20),
Buyer_no int(20),
Buyer_type varchare(20),
);





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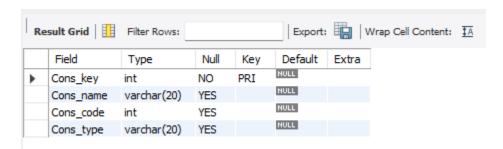
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insert into Buyer_table values (010,'Ramesh',1,'Student');
insert into Buyer_table values (011,'Sahil',2,'Student');
insert into Buyer_table values (112,"Alex",10,"Faculty");



Creation of Consigner table



insert into Consigner_table values (01,"TCL",201,"Domestic"); insert into Consigner_table values (02,"TCL",202,"Domestic"); insert into Consigner_table values (22,"Global",252,"Domestic");

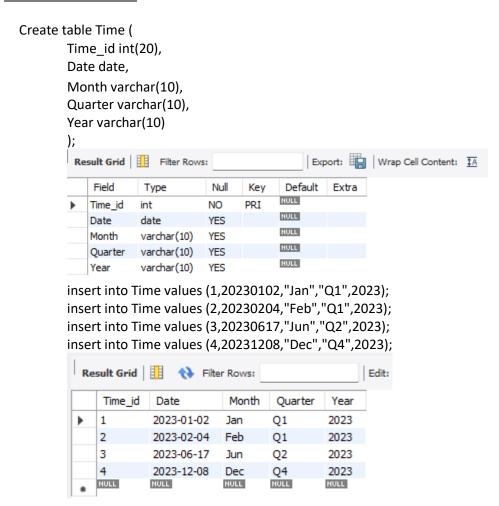




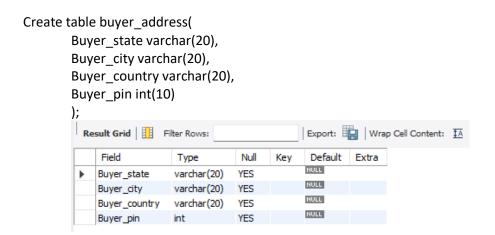
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Creation of Time table



Creation of address table





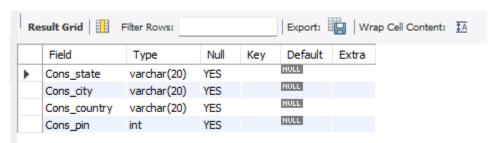
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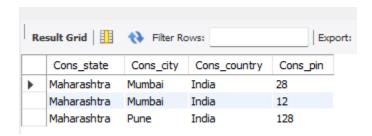
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insert into buyer_address values('Maharashtra','Mumbai','India',28); insert into buyer_address values('Maharashtra','Mumbai','India',12); insert into buyer_address values('Maharashtra','Pune','India',128);





insert into consigner_address values('Maharashtra','Mumbai','India',28); insert into consigner_address values('Maharashtra','Mumbai','India',12); insert into consigner_address values('Maharashtra','Pune','India',128);



Conclusion: Here we are able to implement dimensional tables and fact tables based on case study.