Date: _____

Name: Zain Al Abiden 21L-6260

Q1 Processes and Identities of fact table.

1) Sales
2) Cost
3) Customers
4) Product
5) Revenue
6) Location
7) Channel
8) Segment Profit

Identities of fact table

Base Fact Table:

i) Product key
ii) Time key
iii) Sales key
iv) Quately Sales
v) Market Segment key.

Quarter Aggregate Table:

i) Product key
ii) Quarter key
iii) Location key
iv) Quately Sales
v) Market segment key.

Yearly Aggregate Table:

i) Product key
ii) Year key
iii) Location key
iv) Yearly Sales
v) Market segment key.

Customer Fact Table:

i) CID
ii) Product key
iii) Location key
iv) Time
v) Market segment key.
vi) Sales key.

Sales Fact Table:

i) Sales key
ii) Product key
iii) CID
iv) Location key
v) Time
vi) Distribution key

Date:

Segment Profit Aggregate Table

i) Sales key
ii) Distribution key
iii) Customer key
iv) Location key
v) Time.

Seasonal Change Aggregate Table

i) Season key
ii) Seasonal sales
iii) Location key
iv) Market Segment key
v) Year

Q2

i) Base Fact (Product, Month, City, Hotel/Cafe).
ii) Customer (by sale, by customer, by hotel/cafe, by city, by month)
iii) Sales (by customer, by hotel/cafe, by city, by month).
iv) Distributed Channel aggregate (by city, by month)
v) Seasonal change (by city, by season)
vi) Profit segment (by city, by month)
vii) Quarter
viii) Month
ix) Year

Q3 Dimensions

Base fact: Product key, time, sales, location key, market segment key
Quarterly Aggregate Table: Product key, Quarter key, Location key, Market Segment key
Monthly Aggregate Table: Product key, Month key, Location key, Market Segment key.
Yearly Aggregate Table: Product key, Year key, Location key, Market Segment key
Customer: Customer key, Product key, Location key, time, Market Segment key
Sales: Sales key, Product key, Distribution Channel, location key, Time

Date: _____

Profit Segment : Segment key, total sales, Time, gross profit
Distribution Channel : Sales key, physical sale profit, catalog sale profit, online sale profit, customer key, location key, time
Seasonal Change : Seasonal sales, location key, market segment key, year key

Q4 The facts including pre-calculated facts

1) total number of items sold
2) profit on each product
3) total yearly sales
4) percentage of sales for distribution channel
5) seasonal sales per product
6) yearly sales

Q5 Dimensional Attributes

Product :

Product key	(PK)
SKU number	(Stock keeping unit number)
SKU description	(Stock keeping unit description)
Product Class	(Type of product)
Price	
Brand	

Time :

Tid	(PK)
Year	
Month	
Day	

Location :

Loc key	(PK)
Country	
City	
ZIP code	
P.no	

Date: _____

Market Segment:
- Hotel ID (PK)
- Hotel Description
- Hotel Sales
- Cafe ID (PK)
- Cafe Description
- Cafe Sales

Customer Dimension:
- Customer key (PK)
- Customer name
- Customer SSN
- Customer Phone
- Region

Month:
- Month key (PK)
- Month Year key (FK)
- Month

Seasonal:
- Seasonal key (PK)
- Seasonal sale
- year key (FK)

Quarter:
- Quarter key (PK)
- Quarter Sales
- Year key (FK)

Yearly:
- Year key (PK)
- Year

Week:
- Week key (PK)
- Week
- Month key (FK)

Sales:
- Sales key (PK)
- Hotel Sales
- Cafe Sales
- Location key (FK)

Date: _____

Profit:

Profit key (PK)
Gross Profit on Sales
Sales key (FK)
Profit Description

Distribution Channel:

Channel key (PK)
Channel Sales description
Location key (FK)
Profit key (FK)

Q6

We can keep track of slowly changing dimensions by creating a new record for the changing dimension (Type-II approach).

Q7

The historical duration of database is approximately 7 to 8 years However it varies from database to database which have different kind of constraints.