Data Warehousing

Major Project

Documentation

Submission by

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a) Statement for Decision problem

Decide on the event that should comprise a student festival

b) Representation as DIEM schema

Final Outcome: Successful Event

i. **Objectives:**

- **Means** -Maximize Sponsorships, Optimal Event Management Team Size, Minimize Clashes, Maximize entry fee, Maximum Advertisement
- **CSF**-Type of Event, Entry fee, Duration of Event, Venue of Event, Prize Amount
- **End** - Minimize Cost, Maximum Participation, Maximize Profit

ii. **The Business Intelligence elicitation process:**

Selection of Event (Event, Event Budget, Number of Participants expected, Entry fee, Type of Event, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost)

Uncertainties:
Venue Feasibility (Venue Capacity, Required Capacity, Date)
Inventory Status (Date, Quality, Quantity Required, Price, Discount)

Base Attributes: NIL
Derived Attributes:

- Total Event cost = Inventory cost + Setup cost + Prize money + Advertisement Cost
- Total Profit= (Entry fee * Number of participants) -Total Event Cost

Iteration 1:
Cancel Event (Event, Event budget, Resources Available, Reasons)

Event Budget (Event, Event Type, No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement).

Participants expected (Event theme, Students Interest, College type, Entry Fee, Event type, Audience scope, Advertisement).
Event Venue (Event Type, Event Time, Weather, Event Theme, Number of participants, Event Budget).

Uncertainties:
Participation Status **(**Event, Current Strength, Required Strength, Amount Received, Total Amount Required)
Sponsorship Status **(**Sponsor, Amount Received, Fund Available, Refund Amount in Agreement)

Base Attributes: NIL
Derived Attributes:

- Cancelation cost=Advertisement Cost
- Total In Hand money= Total Event budget - Cancelation cost

Modifies:

- Total Event cost=Total Event Cost - (Inventory cost + Setup cost + Prize money)

<u>Iteration 2:</u>
Change in Venue (Event, Old Venue, New Venue, Cost of change, Change in Inventory)

Uncertainties:
Weather Condition **(**Weather Forecasting, Season, Location Required**)**

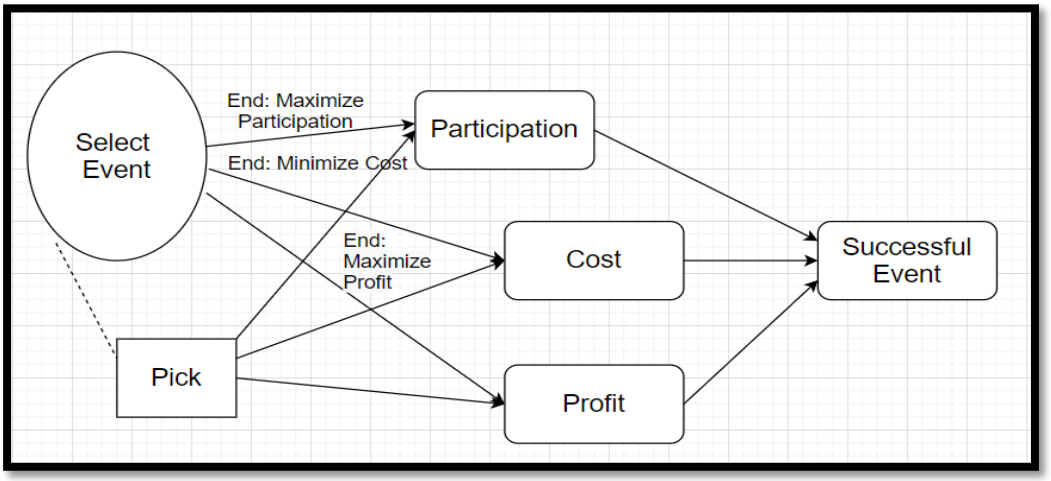
Base Attributes: NIL
Derived Attributes: NIL
Modifies:

- Total Event Cost= Total Event budget + Cost of change

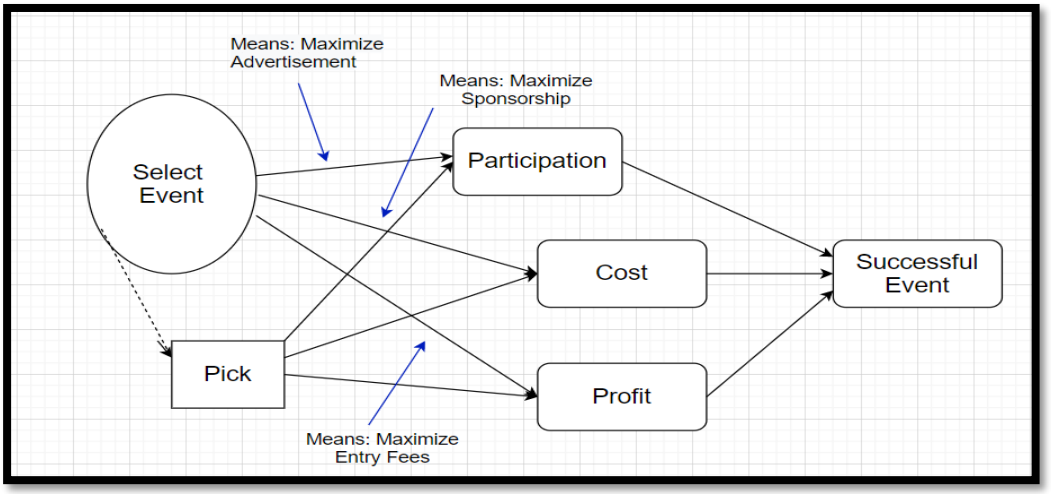
Any action that accesses derived attributes? No
The process terminates

iii. Choice Elicitation Process:

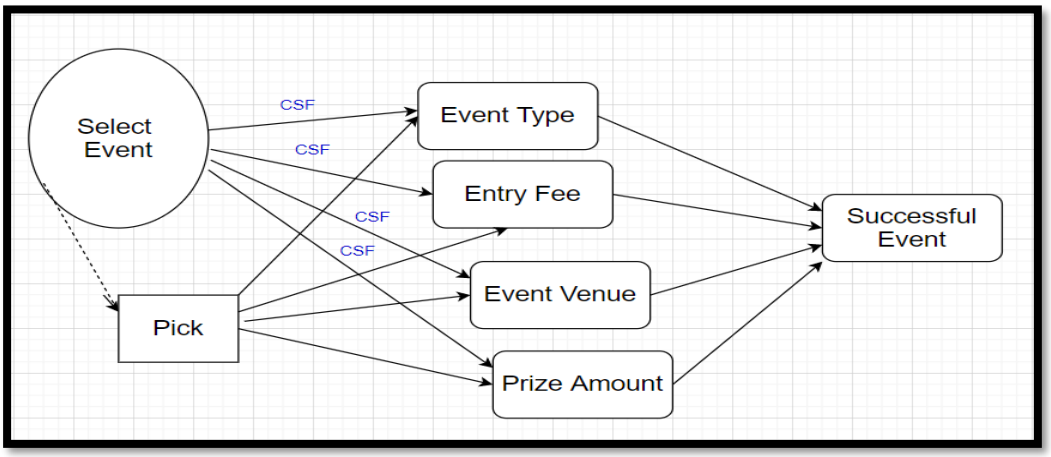
Augmented Influence Diagram: End Objective



Augmented Influence Diagram: Means Objective



Augmented Influence Diagram: CSF Objective



Ends Information Elicitation

ENDSI elicitation is the identification of information needed to evaluate effectiveness of the end to be achieved.

The three steps are

- Determination of Ends of a Decision
- Association of objective with End (Guideline: Measure effectiveness of End)
- Determine the Information

Decision	**Imperative**	**Object**	**Information**
Selection of Event	Minimize	Cost	**Aggregate:** Total Event Cost **Category:** Sub section wise
	Maximize	Participation	**Aggregate:** Total number of Participants
	Maximize	Profit	**Aggregate:** Total Profit **Category:** Sponsorship/Entry Fee

Means Information Elicitation for Ends

Identification of information needed to evaluate the efficiency of the means adopted to produce the ends.

The three steps are

- Determination of Means of the End of the decision
- Identify the Objectives of the Means (Guideline: Measure efficiency of Means)
- Identify the information

Decision	**Ends**	**Means**	**Means Imperative**	**Means Object**	**Information**
Selection of Event	Cost	Connections, Public relations	Maximize	Sponsorships	Total number of sponsors
	Cost	Interview, Skill Set	Optimal	Event Management Team Size	Total number of members **Category:** Section-wise
	Participation	Fest Schedule	Minimize	Clashes	
	Participation	Prize money	Maximize	Entry Fees	Ticket Cost

	Profit/ Participation	Posters, Social Media	Maximize	Advertisement	Advertising statistics **Category:** Media of advertisement

Means Information Elicitation for CSF

Identification of information needed to evaluate the efficiency of the means adopted to produce the ends.

The three steps are

- Determination of Means of the CSF of the decision
- Identify the Objectives of the Means (Guideline: Means efficiency)
- Identify the information

Decision	**CSF**	**Means**	**Means Imperative**	**Means Object**	**Information**
Selection of Event	Type of Event	Committee Opinion, Previous year Data	Maximize	Events Variety	Total Types Events
	Duration of Event	Number of rounds in event	Optimize	Time	Time of Event **Category:** Event Type-wise
	Entry Fee	Inventory, Prize Money	Optimize	Ticket Cost	
	Venue of Event	Venue Inspection	Sufficient	Accommodation	Total capacity
	Prize Amount	Sponsors, Event Budget	Attract	Audience	Total Prize amount **Category:** Position-wise

c) Conversion to GOM4DW schema

i). Functional Dependencies

1. ***Selection of Event*** (Event, Event Budget, Number of Participants expected, Entry fee, Type of Event, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost)

Event, Type of Event → Event Budget, Number of Participants expected, Entry fee, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost

2. ***Venue Feasibility*** (Venue Capacity, Required Capacity, Date)

Venue, Date → Venue Capacity, Require Capacity

3. ***Inventory Status*** (Date, Quality, Quantity Required, Price, Discount)

Date, Price → Quality, Quantity, Discount

4. ***Cancel Event*** (Event, Event budget, Resources Available, Reasons)

Event → Event budget, Resources Available, Reasons

5. ***Participants expected (***Event theme, Students Interest, College type, Entry Fee, Event type, Audience scope, Advertisement).

Event, College Type, Event Theme →Student interest, Entry fee, Audience Scope, Event type, Audience Scope, Advertisement

6. ***Event Venue*** (Event Type, Event Time, Weather, Event Theme, Number of participants, Event Budget).

Event Type, Event Time, Event Theme →Number of participants, Event Budget, Weather

7. ***Sponsorship Status*** **(**Sponsor, Amount Received, Fund Available, Refund Amount in Agreement)

Sponsor → Amount Received, Fund Available, Refund Amount in Agreement

8. ***Change in Venue*** (Event, Old Venue, New Venue, Cost of change, Change in Inventory)

Event, Old Venue→ New Venue, Cost of change, Change in Inventory

9. ***Weather Condition*** **(**Weather Forecasting, Season, Location Required**)**

Season→ Weather Forecasting, Location Required

10. ***Participation Status*** **(**Event, Current Strength, Required Strength, Amount Received, Total Amount Required)

Event → Current Strength, Required Strength, Amount Received, Total Amount Required

11. ***Event Budget*** (Event, Event Type, No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement).

Event, Event Type → No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement

ii). Objects, Attributes, Contain, History

Data & Category objects from Functional Dependency and Tuple Analysis **(GOM4DW Schema)**

No.	Category Object from FD	Data Object from FD	Contain	History
1	**Event**(Event id, Event name), **Event Type**	**Event Selection**(Event Budget, Number of Participants expected, Entry fee, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost)		Each Event, 1 year
2	**Venue**(Name, Location, Capacity), **Date**	**Venue feasibility**(Venue Capacity, Require Capacity)		Each venue , 1year
3	**Date**, **Price**(Cost price, Tax)	**Inventory Status**(Quality, Quantity, Discount)		Event duration , 1 year
4	**Event**(Event id, Event name)	**Cancel**(Event budget, Resources Available, Reasons)	Event Type	
5	**Event**(Event id, Event Name), **College Type**, **Event Theme**(Title, Invitation, Stage design)	**Expected Participant(**student interest, Entry fee, Audience Scope, Event type, Audience Scope, Advertisement**)**	Event Type	Event duration, 1 year
6	**Event Type**, **Event Time**,	**Event Venue**(Number of participants, Event Budget, Weather)	**Location** (Indoor, Outdoor)	Each event, 1 year

	Event Theme(Title, Invitation, Stage design)			
7	**Sponsor** (Sponsor id, Sponsor name, Contact person)	**Event Sponsors**(Amount Received, Fund Available, Refund Amount in Agreement)	Sponsor type	Event duration, 1 year
8	**Event**(Event id, Event Name), **OldVenue** (Name, Location, Capacity)	**Change Venue**(New Venue, Cost of change, Change in Inventory)	Event Type	
9	**Season** (Season name, Season duration)	**Weather Condition**(Weather Forecasting, Location Required)		
10	**Event**(event id, event name)	**Status of Participation**(Current Strength, Required Strength, Amount Received, Total Amount Required)	Event Type	Each event, 1 year
11	**Event**(Event id, Event name), **Event Type**	**Event Cost**(No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement)	Event Type	Each event, 1 year

d) Conversion to Star Schema using Conversion Algorithm:

Facts and Dimensions of each entry from the above table:

1. **Fact:**
   Event Selection(Event Budget, Number of Participants expected, Entry fee, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost)
   Dimensions:
   Event (Event id, Event name)
   Event Type
2. **Fact:**
   Venue feasibility (Venue Capacity, Require Capacity)
   Dimensions:

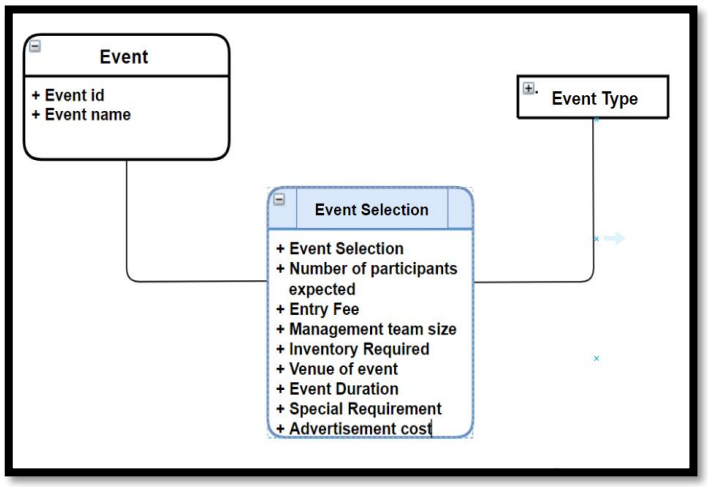
   Venue (Name, Location, Capacity),
   Date
3. **Fact:**
   Inventory Status (Quality, Quantity, Discount)
   Dimension:

Date
Price (Cost price, Tax)

4. **Fact:**
   Cancel (Event budget, Resources Available, Reasons)
   Dimension:
   Event (Event id, Event name); sub-dimension: **Event Type**
5. **Fact:**
   Expected Participant (student interest, Entry fee, Audience Scope, Event type, Audience Scope, Advertisement**)**
   Dimension:
   Event (Event id, Event Name); sub-dimension: **Event Type**
   College Type
   Event Theme (Title, Invitation, Stage design)
6. **Fact:**
   Event Venue (Number of participants, Event Budget, Weather)
   Dimension:
   Event Type
   Event Time
   Event Theme (Title, Invitation, Stage design); sub-dimension: **Location** (Indoor, Outdoor)
7. **Fact:**
   Event Sponsors (Amount Received, Fund Available, Refund Amount in Agreement)
   Dimension:
   Sponsor (Sponsor id, Sponsor name, Contact person); sub-dimension: **Sponsor type**
8. **Fact:**
   Change Venue (New Venue, Cost of change, Change in Inventory)
   Dimension:
   Event (Event id, Event Name); sub-dimension: **Event Type**
   OldVenue (Name, Location, Capacity)
9. **Fact:**
   Weather Condition (Weather Forecasting, Location Required)
   Dimension:
   Season (Season name, Season duration)
10. **Fact:**
    Status of Participation (Current Strength, Required Strength, Amount Received, Total Amount Required)
    Dimension:
    Event (event id, event name); sub-dimension: **Event Type**
11. **Fact:**
    Event Cost (No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement)
    Dimension:
    Event (Event id, Event name); sub-dimension: **Event Type**
    Event Type

e) Designing the Star Schema:

1.



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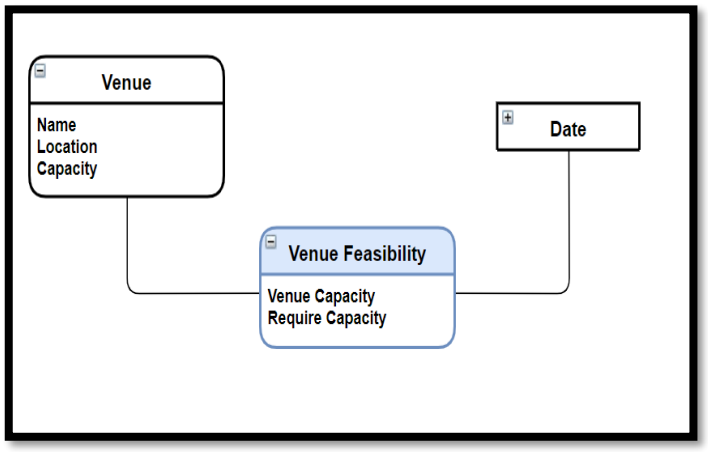

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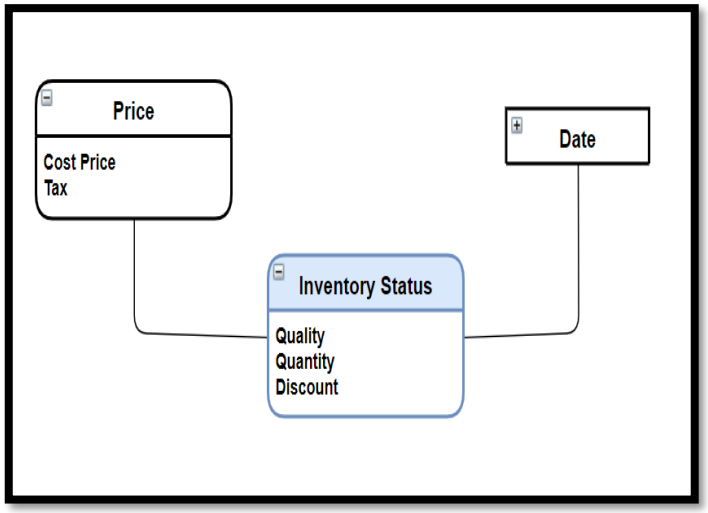

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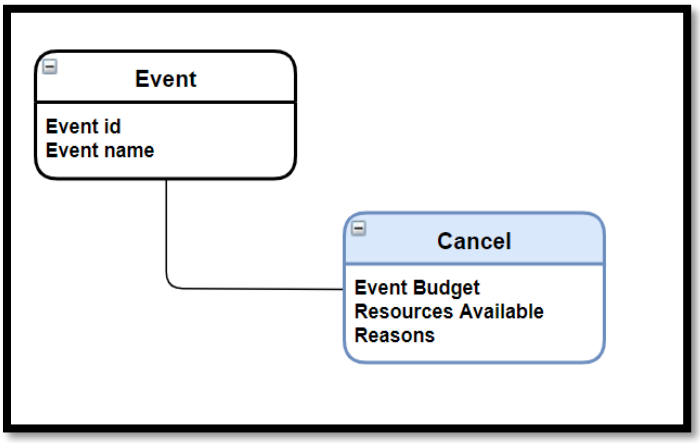
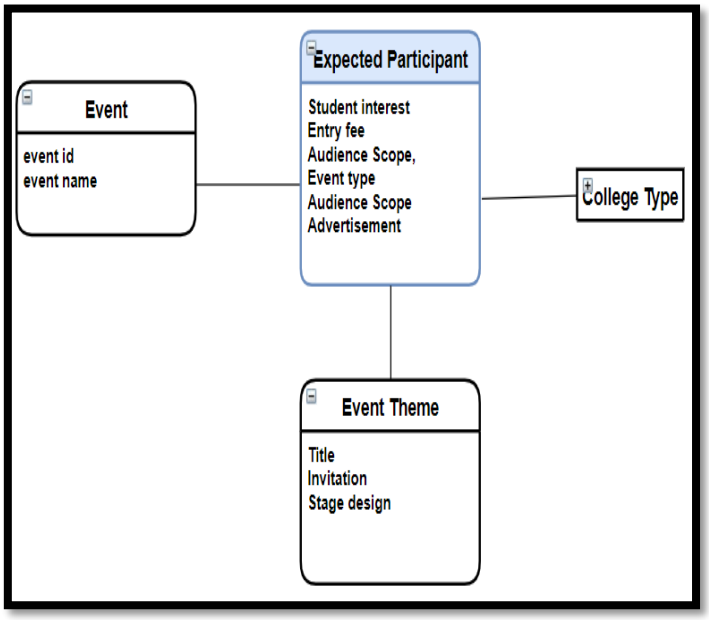
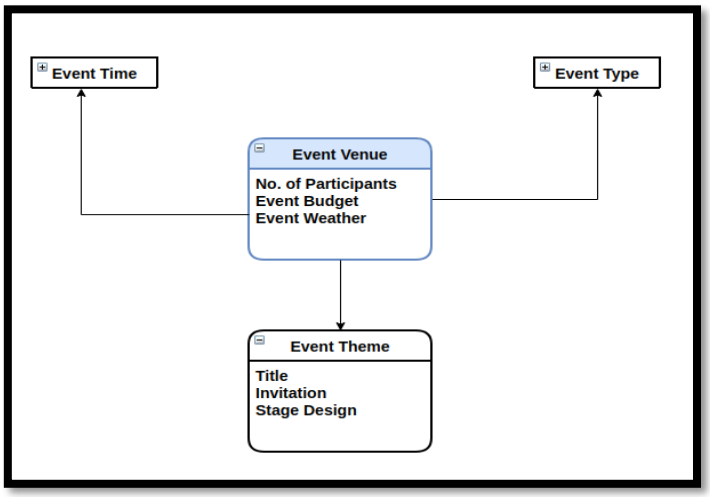

Event
Event id
Event name
Cancel
Event Budget
Resources Available
Reasons

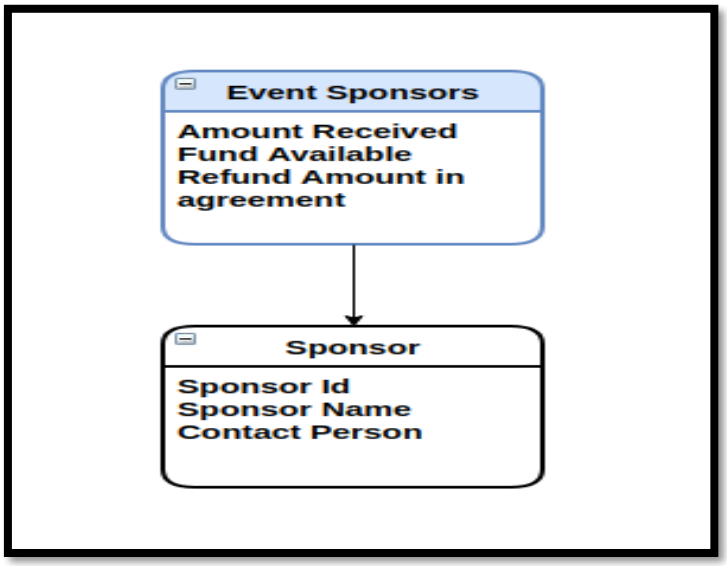
5.


Event
event id
event name
Expected Participant
Student interest
Entry fee
Audience Scope,
Event type
Audience Scope
Advertisement
College Type
Event Theme
Title
Invitation
Stage design

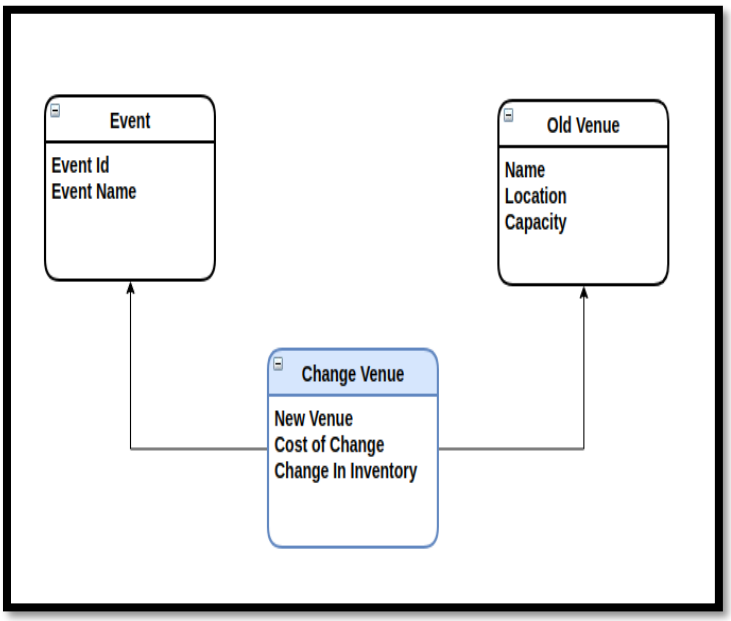
6.


Event Time
Event Type
Event Venue
No. of Participants
Event Budget
Event Weather
Event Theme
Title
Invitation
Stage Design

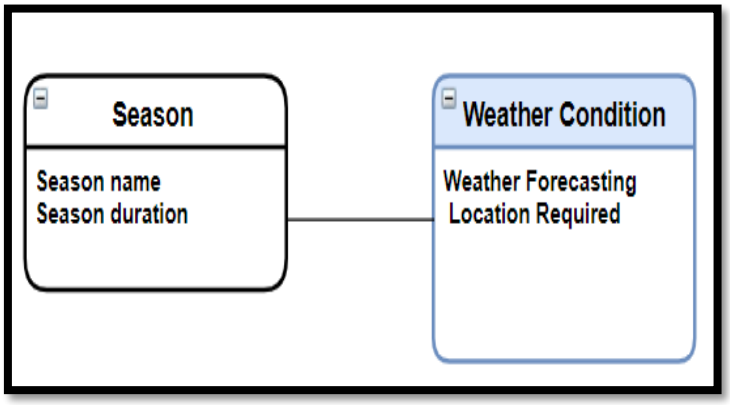
7.


Event Sponsors
Amount Received
Fund Available
Refund Amount in agreement
Sponsor
Sponsor Id
Sponsor Name
Contact Person

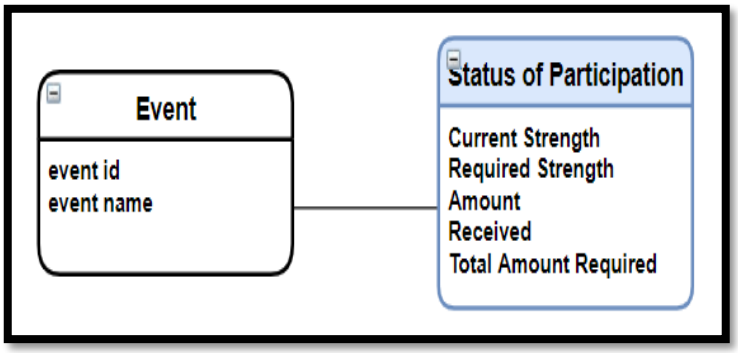
8.


Event
Event Id
Event Name
Old Venue
Name
Location
Capacity
Change Venue
New Venue
Cost of Change
Change In Inventory

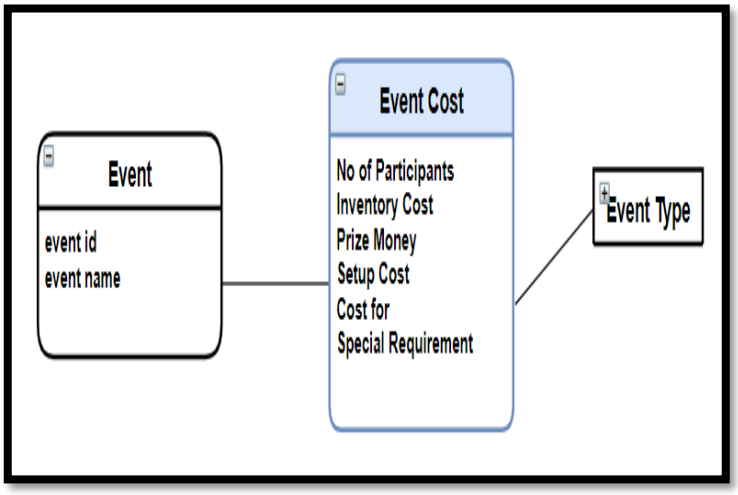
9.


Season
Season name
Season duration
Weather Condition
Weather Forecasting
Location Required

10.



11.



Different types of facts:

- **Event Selection**(Event Budget, Number of Participants expected, Entry fee, Management Team Size, Inventory required, Venue of Event, Event Duration, Special requirement, Advertisement Cost)
- **Venue feasibility** (Venue Capacity, Require Capacity)
- **Inventory Status** (Quality, Quantity, Discount)
- **Cancel** (Event budget, Resources Available, Reasons)
- **Expected Participant (**student interest, Entry fee, Audience Scope, Event type, Audience Scope, Advertisement**)**
- **Event Venue** (Number of participants, Event Budget, Weather)
- **Event Sponsors** (Amount Received, Fund Available, Refund Amount in Agreement)
- **Change Venue** (New Venue, Cost of change, Change in Inventory)
- **Weather Condition** (Weather Forecasting, Location Required)
- **Status of Participation** (Current Strength, Required Strength, Amount Received, Total Amount Required)
- **Event Cost** (No of Participants, Inventory Cost, Prize Money, Setup Cost, Cost for Special Requirement)

Different types of dimension:

- **Event** (Event id, Event name)
- **Event Type**

- **Venue** (Name, Location, Capacity),
- **Date**
- **Price** (Cost price, Tax)
- **College Type**
- **Event Theme** (Title, Invitation, Stage design)
- **Sponsor** (Sponsor id, Sponsor name, Contact person)
- **Sponsor type**
- **OldVenue** (Name, Location, Capacity)
- **Season** (Season name, Season duration)

f) SQL table screenshots for your star schema:

Dimension Tables:

Event Table:

+ Options

	event_sid	nid	Event_id	Event_name	Update_Flag
Edit Copy Delete	1	n1	e01	treasure	N
Edit Copy Delete	2	n2	e02	street dance	Y
Edit Copy Delete	3	n3	e03	daddy's princess	Y
Edit Copy Delete	4	n4	e04	face off	Y
Edit Copy Delete	5	n5	e06	jumanji	Y
Edit Copy Delete	6	n6	e07	singing	Y
Edit Copy Delete	7	n7	e08	drama	Y
Edit Copy Delete	12	n1	e01	treasure_hunt	N
Edit Copy Delete	13	n1	e01	treasure	Y

Event Theme

+ Options

	Sid	nid	Title	invitation	Stage_design	Update_Flag
Edit Copy Delete	1	n1	GOT	NCR	Rectangular	N
Edit Copy Delete	2	n2	Pirates of the carrabian	Delhi only	square	Y
Edit Copy Delete	3	n3	Indo-western	All India	circle	Y
Edit Copy Delete	4	n4	japnese	Asia	Rectangular	Y
Edit Copy Delete	5	n1	GOT	Goa	Rectangular	Y

Old Venue:

	Sid	nid	Name	Location	Capacity	Update_Flag
Edit Copy Delete	1	n1	a01	rnd block	100	Y
Edit Copy Delete	2	n2	a02	rnd block	100	Y
Edit Copy Delete	3	n3	open theat	rnd block	300	N
Edit Copy Delete	4	n4	ground	sport complex	1000	Y
Edit Copy Delete	5	n3	open theat	rnd block	800	Y

Price:

	Sid	nid	cost_price	tax	Update_Flag
Edit Copy Delete	1	n1	250	5	N
Edit Copy Delete	2	n2	1000	30	Y
Edit Copy Delete	3	n3	12000	300	Y
Edit Copy Delete	4	n4	13	0.15	Y
Edit Copy Delete	5	n1	250	5	Y

Season:

	Sid	nid	Season_name	season_duration	Update_Flag
Edit Copy Delete	1	n1	autumn	3 months	N
Edit Copy Delete	2	n2	rainy	3 months	Y
Edit Copy Delete	3	n3	winter	3 months	Y
Edit Copy Delete	4	n4	summer	3 months	Y
Edit Copy Delete	5	n1	autumn	2 month	Y

Sponsor:

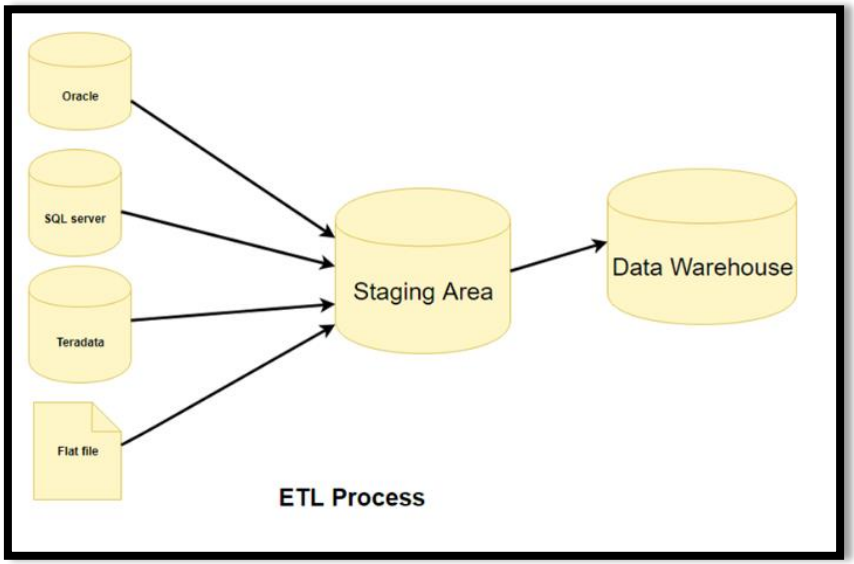
	Sid	nid	sponsor_id	sponsor_name	contact_person	Update_Flag
Edit Copy Delete	1	n1	s01	TCS	head operation	N
Edit Copy Delete	2	n2	s02	Monster	head event	N
Edit Copy Delete	3	n3	s03	Manforce	incharge event	Y
Edit Copy Delete	4	n4	s04	tinder	seceratary	Y
Edit Copy Delete	5	n1	s01	HP	head operation	Y
Edit Copy Delete	6	n2	s02	Dell	head event	Y

Fact Dimension Linkage Table:

	S.no	Fact_name	Dimension_name
Edit Copy Delete	1	event_selection	event
Edit Copy Delete	2	venue_feasibility	venue
Edit Copy Delete	3	inventory_status	price
Edit Copy Delete	4	cancel	event
Edit Copy Delete	5	expected_participant	event
Edit Copy Delete	6	expected_participant	event_theme
Edit Copy Delete	8	event_venue	event_theme
Edit Copy Delete	9	event_sponsors	sponsor
Edit Copy Delete	10	change_venue	oldvenue
Edit Copy Delete	11	change_venue	event
Edit Copy Delete	12	weather_condition	season
Edit Copy Delete	13	status_of_participation	event
Edit Copy Delete	14	event_cost	event

g) The ETL process including for Type I and II changes

ETL Process



Reference - https://www.guru99.com/etl-extract-load-process.html

1. Extraction:

Importing CSV from Source

SQL Scripts:

```
LOAD DATA INFILE 'c:/Cancel.csv' INTO TABLE cancel FIELDS TERMINATED
BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Change Venue.csv' INTO TABLE change_venue FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;

LOAD DATA INFILE 'c:/Event.csv' INTO TABLE event FIELDS TERMINATED BY
',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Event cost.csv' INTO TABLE event_cost FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;

LOAD DATA INFILE 'c:/Event Selection.csv' INTO TABLE event_selection
FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n'
IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Event Sponsor.csv' INTO TABLE event_sponsor
FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n'
IGNORE 1 ROWS;


LOAD DATA INFILE 'c:/event theme.csv' INTO TABLE event_theme FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;
```

```
LOAD DATA INFILE 'c:/Event Venue.csv' INTO TABLE event_venue FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;

LOAD DATA INFILE 'c:/Event.csv' INTO TABLE event FIELDS TERMINATED BY
',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Expected Participant.csv' INTO TABLE
expected_participant FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES
TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Inventory Status.csv' INTO TABLE
inventory_status FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES
TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/oldvenue.csv' INTO TABLE oldvenue FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;

LOAD DATA INFILE 'c:/price.csv' INTO TABLE price FIELDS TERMINATED BY
',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/season.csv' INTO TABLE season FIELDS TERMINATED
BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/sponsor.csv' INTO TABLE sponsor FIELDS
TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1
ROWS;

LOAD DATA INFILE 'c:/Status of Participation.csv' INTO TABLE
status_of_participation FIELDS TERMINATED BY ',' ENCLOSED BY '"'
LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Venue Feasibility.csv' INTO TABLE
venue_feasibility FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES
TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Venue.csv' INTO TABLE venue FIELDS TERMINATED BY
',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;

LOAD DATA INFILE 'c:/Weather Condition.csv' INTO TABLE
weather_condition FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES
TERMINATED BY '\n' IGNORE 1 ROWS;
```

2. Transformation

i. Adding Surrogate Keys in Dimension tables and linking them to Fact tables

```
ALTER TABLE `venue_feasibility` ADD CONSTRAINT `cons_2` FOREIGN KEY (`Vid`) REFERENCES `venue`
(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `inventory_status` ADD CONSTRAINT `cons_3` FOREIGN KEY (`Pid`) REFERENCES `price`(
`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;
```

```
ALTER TABLE `cancel` ADD CONSTRAINT `cons_4` FOREIGN KEY (`Eid`) REFERENCES `event`(`event_sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `expected_participant` ADD CONSTRAINT `cons_5` FOREIGN KEY (`Eid`) REFERENCES `event`(`event_sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `expected_participant` ADD CONSTRAINT `cons_6` FOREIGN KEY (`ET_id`) REFERENCES `event_theme`(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `event_venue` ADD CONSTRAINT `cons_7` FOREIGN KEY (`ET_id`) REFERENCES `event_theme`(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `event_sponsors` ADD CONSTRAINT `cons_8` FOREIGN KEY (`sponsorid`) REFERENCES `sponsor`(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `change_venue` ADD CONSTRAINT `cons_9` FOREIGN KEY (`Eid`) REFERENCES `event`(`event_sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `change_venue` ADD CONSTRAINT `cons_10` FOREIGN KEY (`OEid`) REFERENCES `oldvenue`(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `weather_condition` ADD CONSTRAINT `cons_11` FOREIGN KEY (`Seasonid`) REFERENCES `season`(`Sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `status_of_participation` ADD CONSTRAINT `cons_12` FOREIGN KEY (`Eid`) REFERENCES `event`(`event_sid`) ON DELETE CASCADE ON UPDATE CASCADE;

ALTER TABLE `event_cost` ADD CONSTRAINT `cons_13` FOREIGN KEY (`Eid`) REFERENCES `event`(`event_sid`) ON DELETE CASCADE ON UPDATE CASCADE;
```

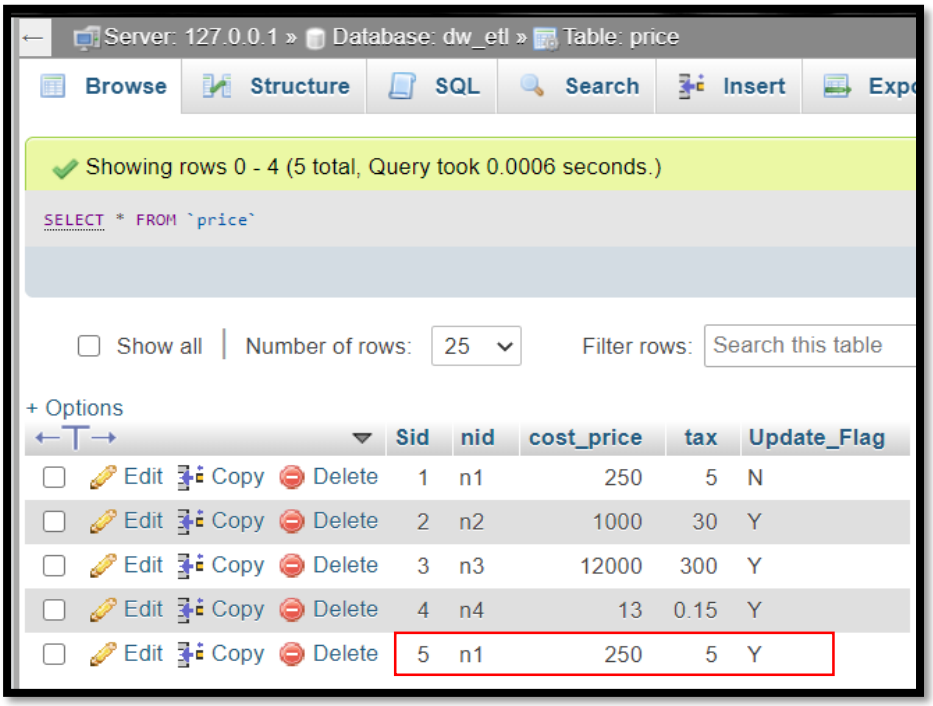
ii. Adding Update Flag Column:

```
ALTER TABLE price ADD COLUMN Update_Flag VARCHAR(2) DEFAULT 'Y';
```

iii. Type 1 Change:

In the type 1 changes the entry in the dimension table is updated with the new value on the latest record which is checked using Update_Flag column.

Performing type I over dimension table (price)



ETL Process for Group_No.-8

Choosing The Dimension

Choose Dimention To Update: Price

Submit

ETL Process for Group_No.-8

Choosing The Attribute from Dimension

n1

cost_price

Type 1

Enter Updated Value:

300

Submit

Server: 127.0.0.1 » Database: dw_etl » Table: price

Browse | Structure | SQL | Search | Insert | Export

Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

```
SELECT * FROM `price`
```

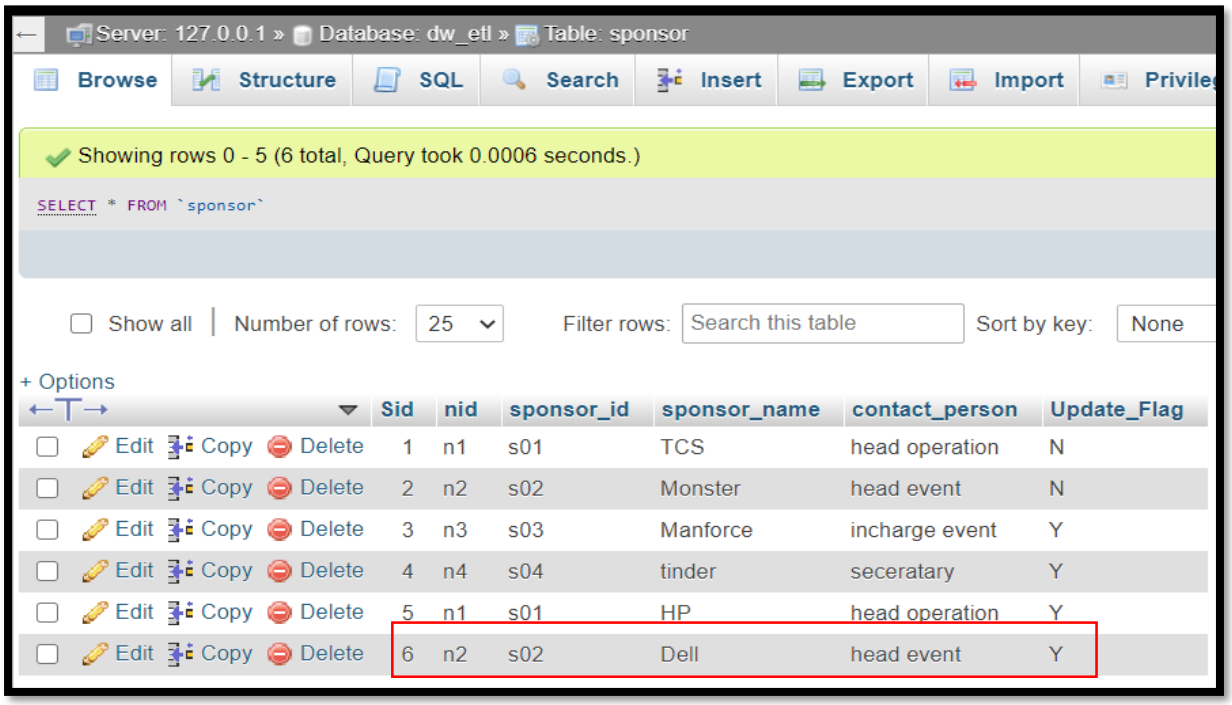
Show all | Number of rows: 25 Filter rows: Search this table

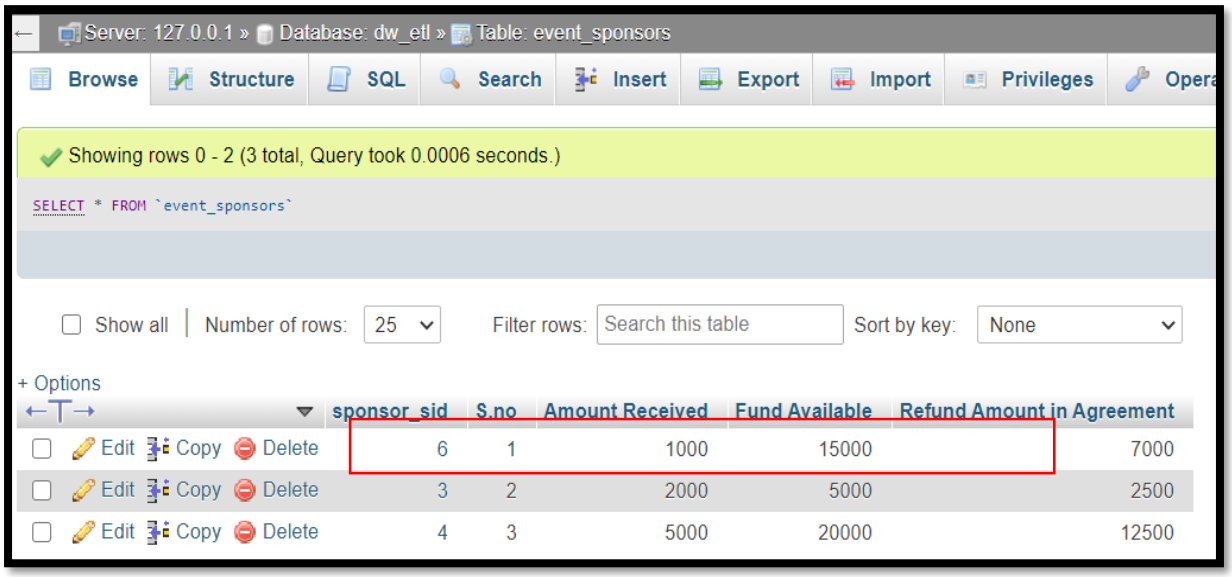
+ Options

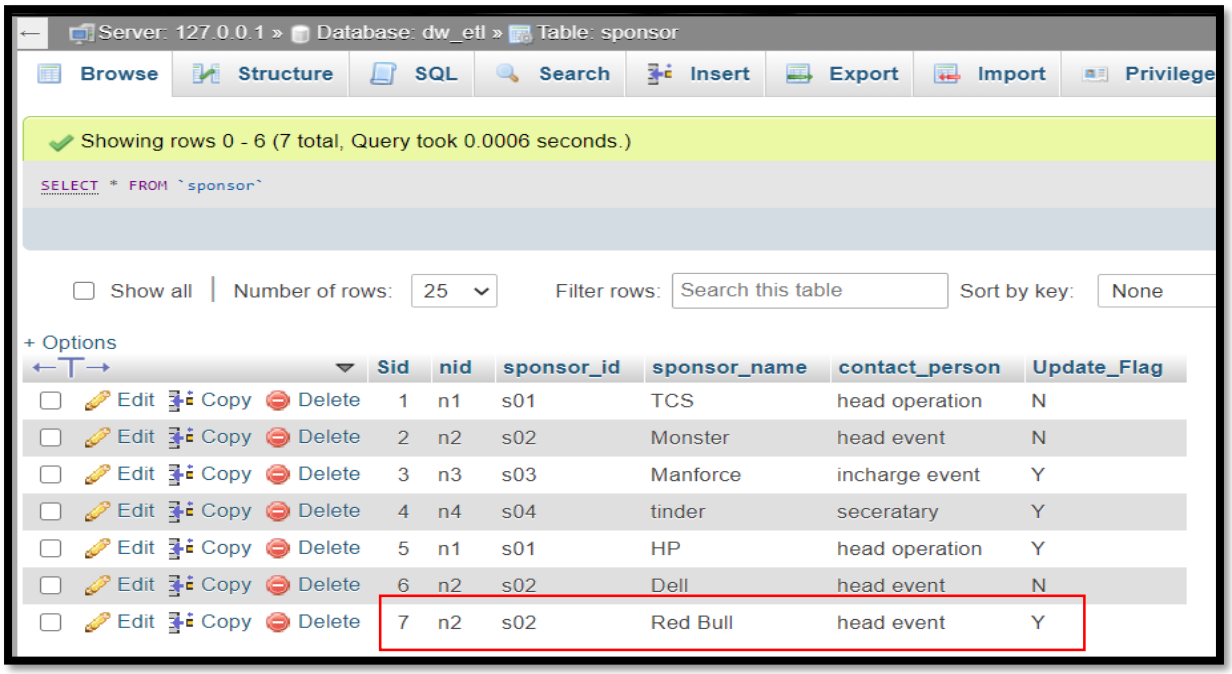
	Sid	nid	cost_price	tax	Update_Flag
Edit Copy Delete	1	n1	250	5	N
Edit Copy Delete	2	n2	1000	30	Y
Edit Copy Delete	3	n3	12000	300	Y
Edit Copy Delete	4	n4	13	0.15	Y
Edit Copy Delete	5	n1	300	5	Y

iv. Type 2 Change

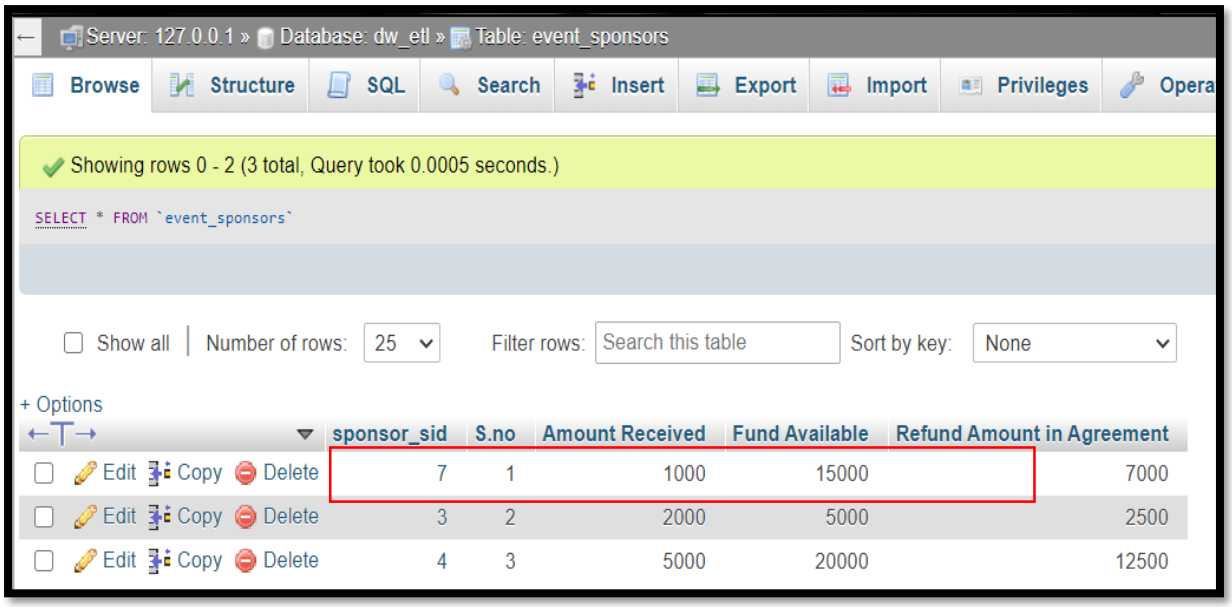
In Type 2 change, a new record is created for the entry with the new value. The previous record is also kept with the Update_Flag=N and the new record is allotted a fresh surrogate key. Then in all the fact tables linked to the dimension, the surrogate key entry is updated with the surrogate key of the latest entry.







	Sid	nid	sponsor_id	sponsor_name	contact_person	Update_Flag
Edit Copy Delete	1	n1	s01	TCS	head operation	N
Edit Copy Delete	2	n2	s02	Monster	head event	N
Edit Copy Delete	3	n3	s03	Manforce	incharge event	Y
Edit Copy Delete	4	n4	s04	tinder	seceratary	Y
Edit Copy Delete	5	n1	s01	HP	head operation	Y
Edit Copy Delete	6	n2	s02	Dell	head event	N
Edit Copy Delete	7	n2	s02	Red Bull	head event	Y



Thanks and Regards

Group 8

==END OF REPORT==