

National University of Computer & Emerging Sciences, Islamabad



Assignment No. 2

Relational Schema and Analysis

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BS(AI)-K

Course Name:

Database Systems

Submitted To:

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UPDATED ERD:



Supply:

This table is now a translation of ternary relationship between vendor, manufacturing outlet and raw material.

Shipment:

This table is now a translation of ternary relationship between manufacturing outlet, retail store and product.

Purchase:

This table is now a translation of ternary relationship between offline / in-store customer, retail store and product.

Relational schemas/ Mapping

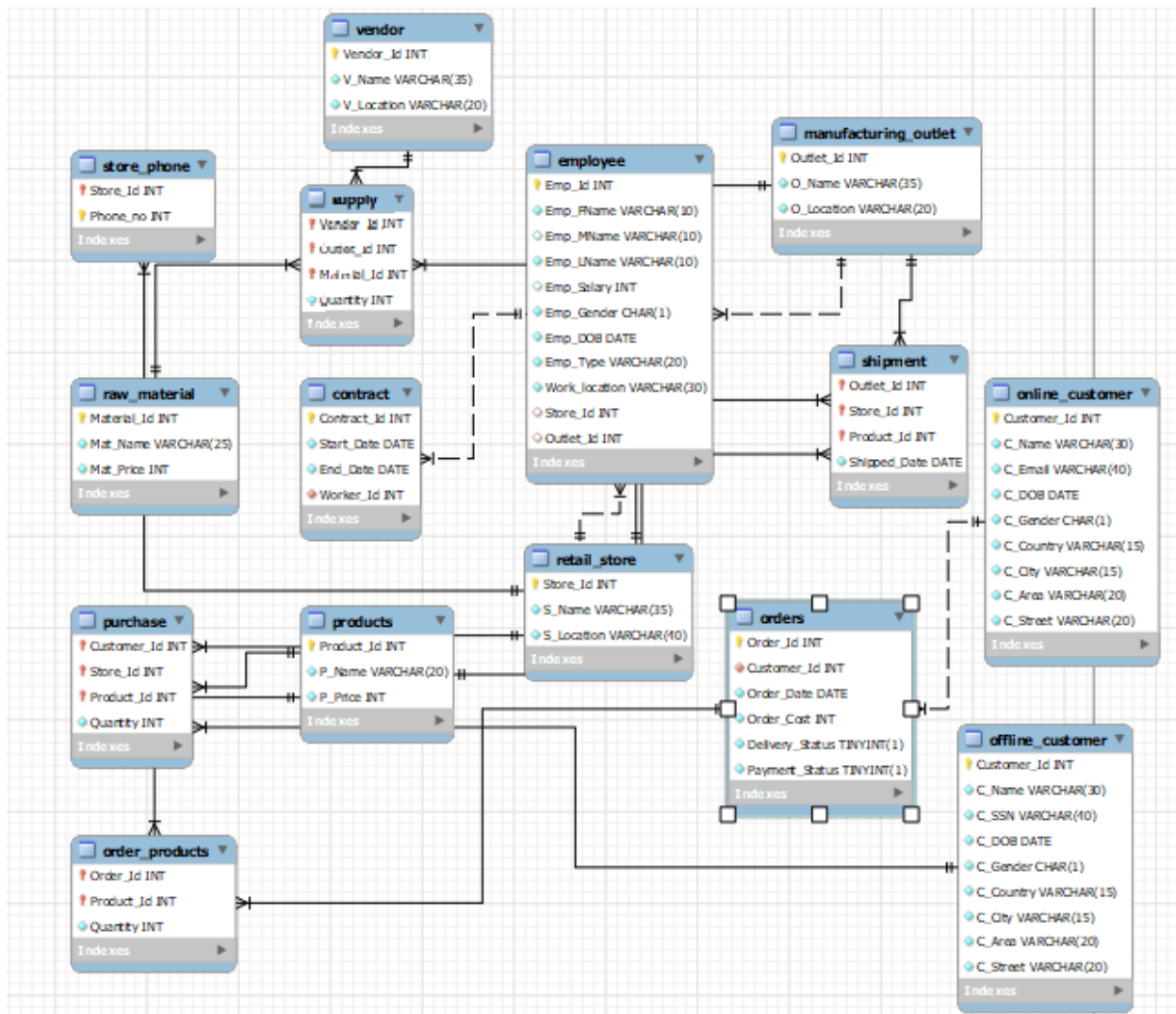


TABLE DESCRIPTION

Online Customer:

Attributes	Description	Constraints	Type	Example
Customer_Id	Unique Id assigned to each customer	PRIMARY KEY AUTO_INCREMENT	INT	1
C_Name	Customer's name	NOT NULL	VARCHAR (30)	'Sarah Smith'
C_Email	Customer's email for record keeping purpose	NOT NULL UNIQUE	VARCHAR (40)	'sarah.smith@gmail.com'
C_DOB	Customer's Date of birth	NOT NULL	DATE	'1990-02-01'
C_Gender	Customer's gender	NOT NULL	CHAR	'F'
C_Country	Customer's country	NOT NULL	VARCHAR (15)	'USA'
C_City	Customer's city	NOT NULL	VARCHAR (15)	'Los Angeles'
C_Area	Customer's area	NOT NULL	VARCHAR (20)	'Beverly Hills'
C_Street	Customer's street	NOT NULL	VARCHAR (20)	'Sunset Blvd'

Offline customer

Attributes	Description	Constraints	Type	Example
Customer_Id	Unique Id assigned to each customer	PRIMARY KEY AUTO_INCREMENT	INT	1
C_Name	Customer's name	NOT NULL	VARCHAR (30)	'Sarah Smith'
Customer_SSN	Customer's social security no for record keeping purposes	NOT NULL UNIQUE	INT	123456789
C_DOB	Customer's Date of birth	NOT NULL	DATE	'1990-02-01'

C_Gender	Customer's gender	NOT NULL	CHAR	'F'
C_Country	Customer's country	NOT NULL	VARCHAR (15)	'USA'
C_City	Customer's city	NOT NULL	VARCHAR (15)	'Los Angeles'
C_Area	Customer's area	NOT NULL	VARCHAR (20)	'Beverly Hills'
C_Street	Customer's street	NOT NULL	VARCHAR (20)	'Sunset Blvd'

Retail Store

Attributes	Description	Constraints	Type	Example
Store_Id	Unique Id assigned to each store	PRIMARY KEY AUTO_INCREMENT	INT	1
S_Name	Store's name	NOT NULL	VARCHAR (15)	'ZARA Shanghai'
S_Location	Store's location	NOT NULL	VARCHAR (15)	'Shanghai, China'

Store Phone

Attributes	Description	Constraints	Type	Example
Store_Id	Unique Id of store	PRIMARY KEY FOREIGN KEY NOT NULL	INT	1
Phone_no	Phone number of store	PRIMARY KEY NOT NULL	INT (11)	442990001

Products

Attributes	Description	Constraints	Type	Example
Product_Id	Unique Id assigned to each product	PRIMARY KEY AUTO_INCREMENT	INT	1
P_Name	Product's name	NOT NULL	VARCHAR (20)	Shirts
P_Price	Product's price	NOT NULL	INT	1200

Purchase

Attributes	Description	Constraints	Type	Example
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Customer_Id	Unique Id of Customer that makes a purchase	PRIMARY KEY FOREIGN KEY NOT NULL	INT	1
Store_Id	Unique Id of Store from where purchase was made	PRIMARY KEY FOREIGN KEY NOT NULL	INT	2
Product_Id	Unique Id of Product that customer has purchased from store	PRIMARY KEY FOREIGN KEY NOT NULL	INT	3
Quantity	No of specific products included in purchase	NOT NULL	INT	4

Orders

Attributes	Description	Constraints	Type	Example
Order_Id	Unique Id assigned to each order	PRIMARY KEY AUTO_INCREMENT	INT	1
Customer_Id	Customer Id of online customer	FOREIGN KEY NOT NULL	INT	2
Order_Date	Date on which order was placed	NOT NULL	DATE	'2022-01-07'
Order_Cost	Total cost of order	NOT NULL	INT	3000
Delivery_Status	Status of order delivery, (delivered or not)	NOT NULL	BOOL	0
Payment_Status	Status of order payment, (paid or not)	NOT NULL	BOOL	0

Order Products

Attributes	Description	Constraints	Type	Example
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Order_Id	Unique Id of order	PRIMARY KEY FOREIGN KEY NOT NULL	INT	1
Product_Id	Id of product included in the order	PRIMARY KEY FOREIGN KEY NOT NULL	INT	2
Quantity	No of specific product in order	NOT NULL	INT	7

Raw Material

Attributes	Description	Constraints	Type	Example
Material_Id	Unique Id assigned to each raw material	PRIMARY KEY AUTO_INCREMENT	INT	1
Mat_Name	Raw material's name	NOT NULL	VARCHAR (25)	'Cotton'
Mat_Price	Raw material's price	NOT NULL	INT	500

Vendor

Attributes	Description	Constraints	Type	Example
Vendor_Id	Unique Id assigned to each vendor	PRIMARY KEY AUTO_INCREMENT	INT	1
V_Name	Vendor's name	NOT NULL	VARCHAR (35)	'Fabrics Unlimited'
V_Location	Vendor's location	NOT NULL	VARCHAR (20)	'New York'

Manufacturing Outlet

Attributes	Description	Constraints	Type	Example
Outlet_Id	Unique Id assigned to each outlet	PRIMARY KEY AUTO_INCREMENT	INT	1
O_Name	Outlet's name	NOT NULL	VARCHAR (35)	'Stitch Factory'
O_Location	Outlet's location	NOT NULL	VARCHAR (20)	'New York'

Supply

Attributes	Description	Constraints	Type	Example
Vendor_Id	Unique Id of vendor that sells raw material to outlet	PRIMARY KEY FOREIGN KEY NOT NULL	INT	1
Outlet_Id	Unique Id of outlet who buys raw materials from vendor	PRIMARY KEY FOREIGN KEY NOT NULL	INT	2
Material_Id	Unique Id of raw material that vendor has sold to outlet	PRIMARY KEY FOREIGN KEY NOT NULL	INT	3
Quantity	No of specific raw materials included in supply	NOT NULL	INT	400

Shipment

Attributes	Description	Constraints	Type	Example
Outlet_Id	Unique Id of outlet that sends finished products to stores	PRIMARY KEY FOREIGN KEY NOT NULL	INT	1
Store_Id	Unique Id of Store that receives finished products from outlets	PRIMARY KEY FOREIGN KEY NOT NULL	INT	2
Product_Id	Unique Id of Product that outlet has shipped to store	PRIMARY KEY FOREIGN KEY NOT NULL	INT	3
Shipped_Date	Date on which shipment was send	NOT NULL	DATE	'2023-01-01'

Employee

Attributes	Description	Constraints	Type	Example
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Emp_Id	Unique Id assigned to each employee	PRIMARY KEY AUTO_INCREMENT	INT	1
Emp_FName	Employee's First Name	NOT NULL	VARCHAR (10)	'Alex'
Emp_MName	Employee's Middle Name		VARCHAR (10)	'William'
Emp_LName	Employee's Last Name	NOT NULL	VARCHAR (10)	'Davis'
Emp_Salary	Employee's Salary	NOT NULL	INT	68000
Emp_Gender	Employee's Gender	NOT NULL	CHAR	'M'
Emp_DOB	Employee's date of birth	NOT NULL	DATE	'1993-07-10',
Emp_Type	Employee's type / dept	NOT NULL	VARCHAR (20)	'Manufacturing'
Work_location	Employee's location of work	NOT NULL	VARCHAR (30)	'Seattle'
Store_Id	Unique Id of store in which employee works	FOREIGN KEY	INT	NULL
Outlet_Id	Unique Id of outlet in which employee works	FOREIGN KEY	INT	3

Contract:

Attributes	Description	Constraints	Type	Example
Contract_Id	Unique Id assigned to each contract	PRIMARY KEY AUTO_INCREMENT	INT	1
Start_Date	Start date of contract	NOT NULL	DATE	'2022-01-01'
End_Date	End date of contract	NOT NULL	DATE	'2022-12-31'
Worker_Id	Unique Id of contract worker	NOT NULL FOREIGN KEY	INT	2

DATA SETS

Online Customer

C_Id	C_Name	C_Email	C_DOB	C_Gender	C_Country	C_City	C_Area	C_Street
1	'Sarah Smith'	'sarah.smith@gmail.com'	'1990-02-01'	'F'	'USA'	'Los Angeles'	'Beverly Hills'	'Sunset Blvd'
2	'Michael Brown'	'michael.brown@example.com'	'1978-01-22'	'M'	'USA'	'Los Angeles'	'Hollywood'	'Sunset Boulevard'
3	'John Doe'	'johndoe@yahoo.com'	'1985-07-15'	'M'	'Canada'	'Toronto'	'Scarborough'	'Kingston Rd'
4	'Emma Brown'	'emma.brown@hotmail.com'	'1992-11-23'	'F'	'UK'	'London'	'Westminster'	'Oxford Street'
5	'Maria Garcia'	'mariagarcia@yahoo.com'	'1988-05-18'	'F'	'Spain'	'Madrid'	'Salamanca'	'Calle de Serrano'

Offline customer

C_Id	C_Name	C_SSN	C_DOB	C_Gender	C_Country	C_City	C_Area	C_Street
1	'Sarah Smith'	123456789	'1990-02-01'	'F'	'USA'	'Los Angeles'	'Beverly Hills'	'Sunset Blvd'
2	'Michael Brown'	987654321	'1978-01-22'	'M'	'USA'	'Los Angeles'	'Hollywood'	'Sunset Boulevard'
3	'John Doe'	246810121	'1985-07-15'	'M'	'Canada'	'Toronto'	'Scarborough'	'Kingston Rd'
4	'Emma Brown'	135791113	'1992-11-23'	'F'	'UK'	'London'	'Westminster'	'Oxford Street'
5	'Rachel Kim'	864208040	'1991-04-25'	'F'	'South Korea'	'Seoul'	'Gangnam'	'Apgujeong-ro'

Retail Store

Store_Id	S_Name	S_Location
1	'ZARA Dubai Mall'	'Dubai United Arab Emirates'
2	'ZARA Westfield London'	'London United Kingdom'
3	'ZARA Time Square'	'New York United States'
4	'ZARA Shanghai'	'Shanghai China'
5	'ZARA Plaza Senayan'	'Jakarta Indonesia'

Store Phone

Store_Id	Store_phone
1	1415223333
2	1310224444
3	1416777888
4	442099000
5	813458912

Purchase

Customer_Id	Store_Id	Product_Id	Quantity
3	1	1	2
3	1	3	1
4	2	2	1
4	9	4	2
1	10	1	3

Products:

Product_Id	P_Name	P_Price
1	'Shirts'	1200
2	'Pants'	1250
3	'Jacket'	1350
4	'Shoes'	500
5	'Hat'	150

Orders:

Order_Id	Customer_Id	Order_Date	Order_Cost	Delivery_Status	Payment_Status
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1	1	'2022-01-01'	500	1	0
2	2	'2022-01-02'	250	0	0
3	3	'2022-01-03'	1000	1	1
4	4	'2022-01-04'	750	1	0
5	5	'2022-01-05'	1500	0	1

Order Products:

Order_Id	Product_Id	Quantity
1	1	3
1	2	2
1	3	5
2	4	4
2	5	6

Raw Material:

Material_Id	Mat_Name	Mat_Price
1	'Cotton'	500
2	'Leather'	2000
3	'Wool'	800
4	'Silk'	1500
5	'Polyester'	300

Vendor:

Vendor_Id	V_Name	V_Location
1	'Fabrics Unlimited'	'New York'
2	'Threadz Inc.'	'Los Angeles'
3	'Weave-A-Lot'	'Chicago'
4	'Needlepoint Supplies'	'Houston'
5	'Button Emporium'	'Dallas'

Manufacturing Outlet:

Outlet_Id	O_Name	O_Location
1	'Stitch Factory'	'New York'
2	'Sew Smart'	'Los Angeles'
3	'Knit Wit'	'Chicago'

4	'Sewing Solutions'	'Houston'
5	'Sew Much Fun'	'Dallas'

Supply

Vendor_Id	Outlet_Id	Material_Id	Quantity
1	1	1	200
2	1	2	300
3	2	3	500
4	2	4	400
5	3	5	100

Shipment

Outlet_Id	Store_Id	Product_Id	Shipped_Date
1	1	1	'2023-01-01'
2	1	2	'2023-01-03'
3	2	3	'2023-01-05'
4	2	4	'2023-01-07'
5	3	5	'2023-02-18'

Employee:

Emp_Id	Emp_F Name	Emp_M Name	Emp_L Name	Emp_Salary	Emp_Gender	Emp_DOB	Emp_Type	Work_location	Store_Id	Outlet_Id
1	'John'	'Doe'	'Smith'	50000	'M'	'1990-01-01'	'Contract Worker'	'New York'	NULL	NULL
2	'Emma'	'Lee'	'Johnson'	60000	'F'	'1995-03-12'	'Retail'	'Chicago'	7	NULL
3	'Mike'	'Anthony'	'Brown'	65000	'M'	'1988-06-30'	'Contract Worker'	'Los Angeles'	NULL	NULL
4	'Sarah'	'Elizabeth'	'Taylor'	70000	'F'	'1992-09-20'	'Manufacturing'	'Boston'	NULL	1

5	'David'	'H'	'Kim'	45000	'M'	'1999 -11- 05'	'Retail'	'San Franci sco'	4	NULL
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Contract

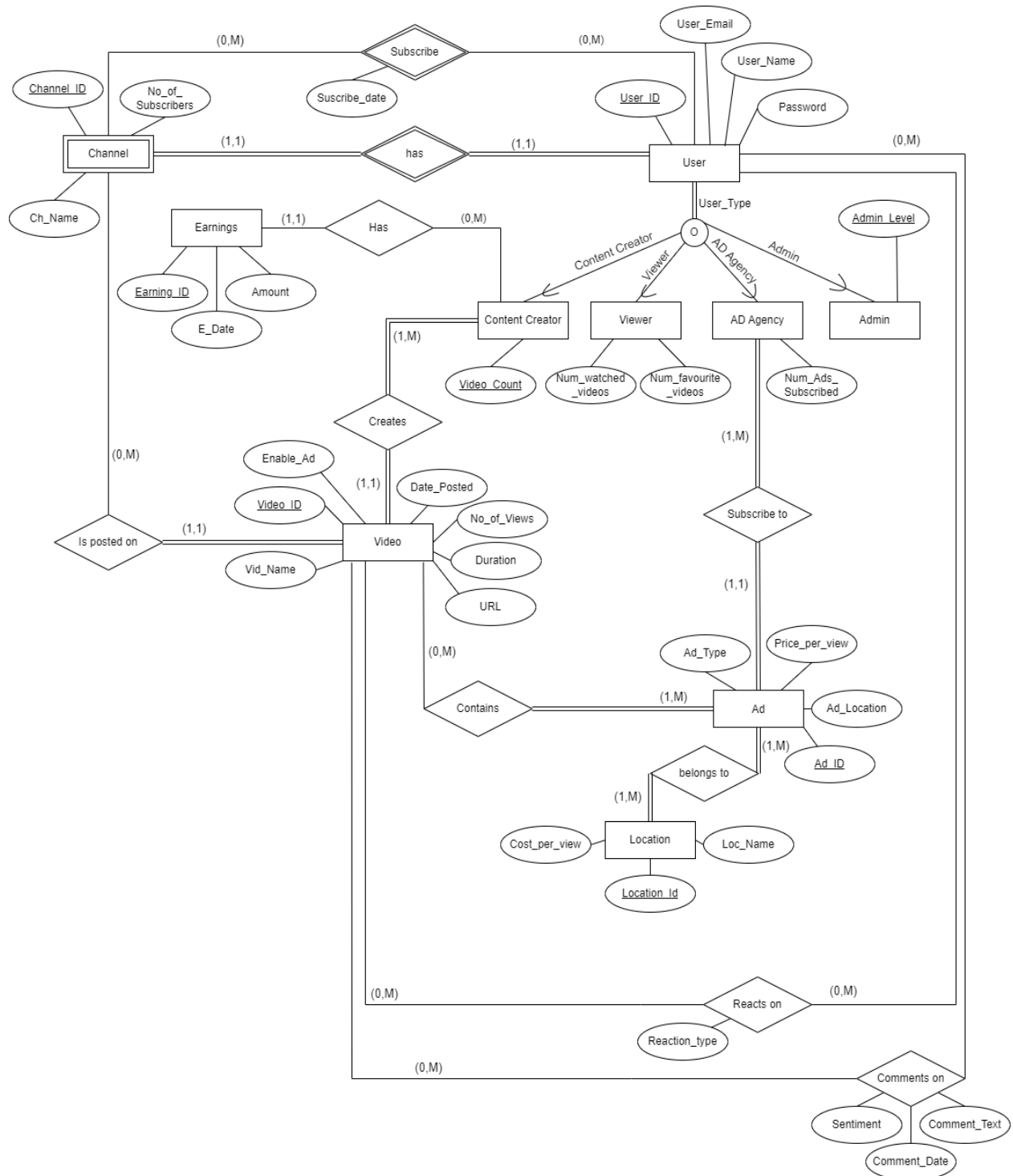
Contract_Id	Start_Date	End_Date	Worker_Id
1	'2022-01-01'	'2022-12-31'	1
2	'2022-02-15'	'2022-08-14'	9
3	'2022-03-20'	'2022-09-19'	3

Query Insights:

1. The first query lists the top 5 stores that have made the most revenue. The query can help identify the most profitable stores and products.
2. The second query lists the top 5 raw materials that have been sold the most. The query can help identify the most in-demand raw materials and their pricing.
3. The third query lists the orders that are paid through e-payments rather than cash on delivery. The query can help identify orders that need immediate attention to ensure delivery.
4. The fourth query lists customers who have made both online and offline purchases and shows their total orders and purchases. The query can help identify the most loyal and active customers.
5. The fifth query lists the frequently bought products by all customers. The query can help identify the most popular products among customers.
6. The sixth query lists the total salary of all departments and the number of employees working there. The query can help identify the most expensive and the most staffed departments.

QUESTION NO.2:

UPDATED ERD:



User (Admin):

Rather than dividing user entity into 2 sets like this:

1. {Content Creator, Viewer, Ad Agency}
2. {Admin}

It is directly divided into 4 roles (1 set = {Content Creator, Viewer, Ad Agency, Admin})

Assumption:

Assuming that there are more than 1 admins, each with different control and rights which is determined by admin level that can take possibly one of the following three values: **high, low, med (medium)**.

Relational schemas/ Mapping

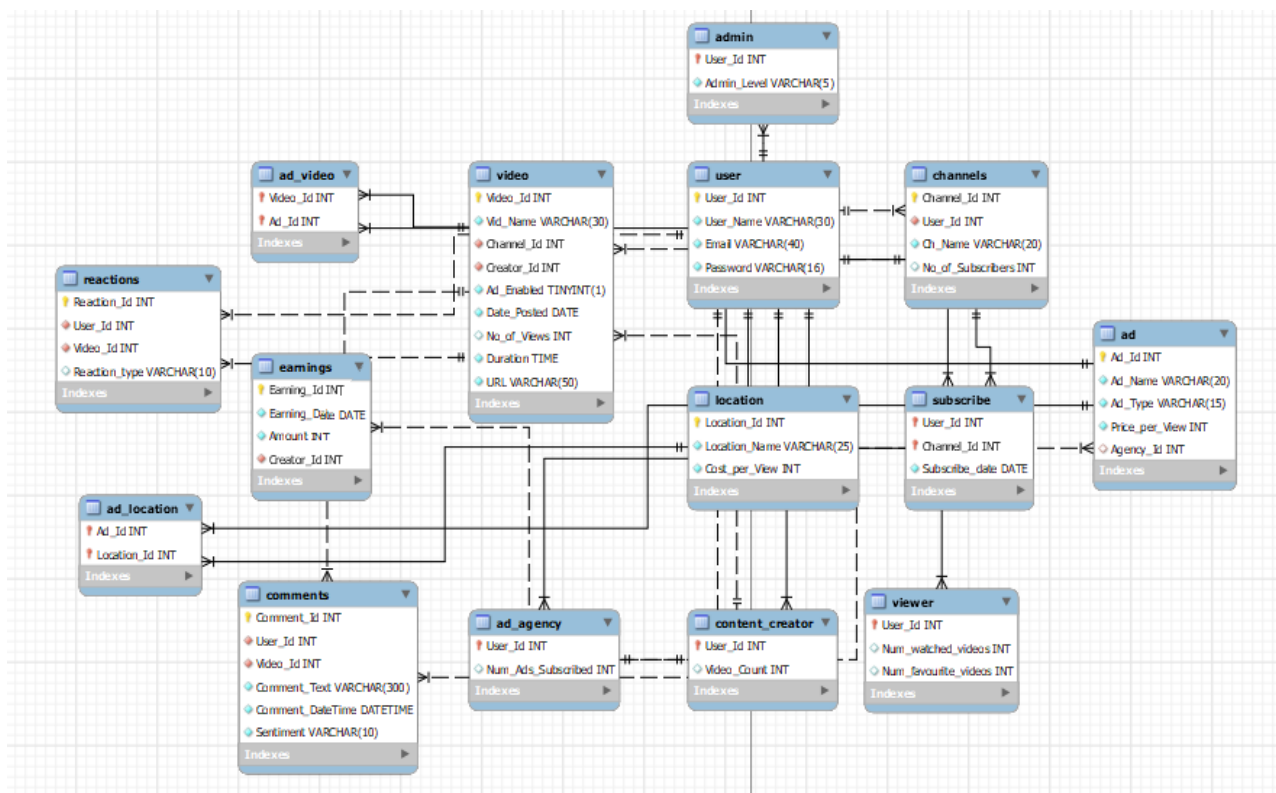


TABLE DESCRIPTION

User

Attributes	Description	Constraints	Type	Example
User_Id	Id assigned to each user based on unique email	PRIMARY KEY AUTO_INCREMENT	INT	1
User_Name	User's name that is visible to other people on platform	NOT NULL	VARCHAR (30)	'John Smith'
Email	Email of user's account	UNIQUE NOT NULL	VARCHAR (40)	'john.smith@gmail.com'
Password	Password of user's account	NOT NULL	VARCHAR (16)	'pass123'

Content Creator

Attributes	Description	Constraints	Type	Example
User_Id	Unique Id of user who is also content creator	PRIMARY KEY NOT NULL FOREIGN KEY	INT	1
Video_Count	No of videos that a content creator has created		INT	5

Viewer

Attributes	Description	Constraints	Type	Example
User_Id	Unique Id of user who is also viewer	PRIMARY KEY NOT NULL FOREIGN KEY	INT	2
Num_watched_videos	No of videos that a viewer has watched		INT	10

Num_favourite_videos	No of videos that viewer has marked favorite		INT	4
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Ad Agency

Attributes	Description	Constraints	Type	Example
User_Id	Unique Id of user who also runs ad agency	PRIMARY KEY NOT NULL FOREIGN KEY	INT	1
Num_Ads_Subscribed	No of ad that ad agency has subscribed		INT	3

Admin

Attributes	Description	Constraints	Type	Example
User_Id	Unique Id of user who is also admin	PRIMARY KEY NOT NULL FOREIGN KEY	INT	4
Admin_Level	Rank/level of admin which determines its extent of control	NOT NULL	VARCHAR (5)	"high"

Channels

Attributes	Description	Constraints	Type	Example
Channel_Id	Unique Id assigned to each channel	PRIMARY KEY AUTO_INCREMENT	INT	1
User_Id	Unique id of user	NOT NULL FOREIGN KEY	INT	1
Ch_Name	Name of the user's channel	NOT NULL	VARCHAR (20)	'FoodiesTV'
No_of_Subscribers	No of users that have subscribed this channel		INT	1500

Video

Attributes	Description	Constraints	Type	Example
Video_Id	Unique Id assigned to each video	PRIMARY KEY AUTO_INCREMENT	INT	1
Vid_Name	Name of the video	NOT NULL	VARCHAR (30)	'5-Minute Recipe'
Channel_Id	Id of channel on which video is posted	NOT NULL FOREIGN KEY	INT	1
Creator_Id	Id of creator who has created this video	NOT NULL FOREIGN KEY	INT	1
Ad_Enabled	Flag for whether video contains ad or not	NOT NULL	BOOL	true
Date_Posted	Date on which video was posted	NOT NULL	DATE	'2022-03-20'
No_of_Views	No of users that have viewed this video		INT	5000
Duration	How long is video	NOT NULL	TIME	'00:15:30'
URL	URL of the video	NOT NULL	VARCHAR (50)	'https://www.youtube.com/watch?v=12345'

Subscribe

Attributes	Description	Constraints	Type	Example
User_Id	Unique Id of User that has	PRIMARY KEY NOT NULL	INT	1

	subscribed the channel	FOREIGN KEY		
Channel_Id	Unique Id of channel that a user has subscribed	PRIMARY KEY NOT NULL FOREIGN KEY	INT	2
Subscribe_date	Date on which user has subscribed the channel	NOT NULL	DATE	'2022-03-20'

Comments

Attributes	Description	Constraints	Type	Example
Comment_Id	Unique Id assigned to each comment	PRIMARY KEY AUTO_INCREMENT	INT	1
User_Id	Unique Id of User that has commented on video	FOREIGN KEY NOT NULL	INT	1
Video_Id	Unique Id of Video that on which user has commented	FOREIGN KEY NOT NULL	INT	2
Comment_Text	Actual comment	NOT NULL	VARCHAR (300)	"Great Video"
Comment_DateTime	Date and time at which comment was posted	NOT NULL	DATETIME	"2023-03-10 10:23:00"
Sentiment	Sentiment of Comment (pos,neu,neg)	NOT NULL	VARCHAR (10)	"pos"

Reactions

Attributes	Description	Constraints	Type	Example
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Reaction_Id	Unique Id assigned to each reaction	PRIMARY KEY AUTO_INCREMENT	INT	1
User_Id	Unique Id of the user that has reacted	FOREIGN KEY NOT NULL	INT	2
Video_Id	Unique Id assigned of video on which user has reacted	FOREIGN KEY NOT NULL	INT	3
Reaction_type	Type of reaction (like, dislike)	NOT NULL	VARCHAR (10)	"Like"

Ad

Attributes	Description	Constraints	Type	Example
Ad_Id	Unique Id assigned to each ad	PRIMARY KEY AUTO_INCREMENT	INT	1
Ad_Name	Name of the ad	NOT NULL	VARCHAR (20)	"Summer Sale"
Ad_Type	Type of ad (video, image, short pause)	NOT NULL	VARCHAR (15)	"image"
Price_per_View	Price of ad according to per view on video	NOT NULL	INT	5
Agency_Id	Unique Id of ad agency that has subscribed an ad	FOREIGN KEY	INT	2

Location

Attributes	Description	Constraints	Type	Example
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Location_Id	Unique Id assigned to each location	PRIMARY KEY AUTO_INCREMENT	INT	1
Location_Name	Name of the location	NOT NULL	VARCHAR (25)	"Europe"
Cost_per_View	Cost of streaming ad in that location	NOT NULL	INT	7

Ad Location

Attributes	Description	Constraints	Type	Example
Ad_Id	Unique Id of ad streaming in this location	PRIMARY KEY NOT NULL FOREIGN KEY	INT	1
Location_Id	Unique Id of location in which this ad is streaming	PRIMARY KEY NOT NULL FOREIGN KEY	INT	2

Ad Video

Attributes	Description	Constraints	Type	Example
Video_Id	Unique Id of video which contains this ad	PRIMARY KEY NOT NULL FOREIGN KEY	INT	1
Ad_Id	Unique Id of ad which is in this video	PRIMARY KEY NOT NULL FOREIGN KEY	INT	2

Earnings

Attributes	Description	Constraints	Type	Example
Earning_Id	Unique Id assigned to each earning	PRIMARY KEY AUTO_INCREMENT	INT	1
Earning_Date	Date recorded against each earning	NOT NULL	DATE	"2023-03-10"

Amount	Amount earned on specific date	NOT NULL	INT	1000
Creator_Id	Unique Id of user that this earning belongs to	FOREIGN KEY NOT NULL	INT	2

DATA SETS

User:

User_Id	User_Name	Email	Password
1	'John Smith'	'john.smith@gmail.com'	'pass123'
2	'Alice Johnson'	'alice.johnson@yahoo.com'	'12345'
3	'Mohammed Ali'	'm.ali@hotmail.com'	'abcde'
4	'Sarah Kim'	'sarah.kim@gmail.com'	'password555'
5	'Juan Perez'	'jperez@gmail.com'	'qwert'

Content Creator

User_Id	Video_Count
1	20
2	15
3	10
4	30
5	25

Viewer

User_Id	Num_watched_videos	Num_favourite_videos
28	100	15
27	75	10
26	50	5
25	200	20
24	150	12

Ad Agency

User_Id	Num_Ads_Subscribed
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1	5
2	4
3	3
4	6
5	7

Admin

User_Id	Admin_Level
1	'high'
2	'med'
3	'low'
4	'high'
5	'low'

Channels:

Channel_Id	User_Id	Ch_Name	No_of_Subscribers
1	1	'FoodiesTV'	150000
2	2	'FitnessGuru'	100000
3	3	'TravelDiaries'	75000
4	4	'DIY_Hacks'	50000
5	5	'Pet_Lovers'	25000

Video:

Video_Id	Vid_Name	Channel_Id	Creator_Id	Ad_Enabled	Date_Posted	No_of_Views	Duration	URL
1	'5-Minute Recipe'	1	1	true	'2022-03-20'	50000	'00:15:30'	'https://www.youtube.com/watch?v=12345'
2	'HIIT Workout'	2	2	true	'2022-03-22'	75000	'00:25:15'	'https://www.youtube.com/watch?v=23456'

3	'Island Paradise'	3	3	true	'2022-03-23'	25000	'00:10:01'	'https://www.youtube.com/watch?v=34567'
4	'DIY Home Decor'	4	4	true	'2022-03-25'	10000	'00:12:34'	'https://www.youtube.com/watch?v=45678'
5	'Cute Pet Compilation'	5	5	true	'2022-03-26'	15000	'00:34:05'	'https://www.youtube.com/watch?v=56789'

Subscribe:

User_Id	Channel_Id	Subscribe_date
1	2	'2022-03-20'
1	3	'2022-03-21'
1	4	'2022-03-23'
2	1	'2022-03-24'
2	5	'2022-03-25'

Comments:

Comment_Id	User_Id	Video_Id	Comment_Text	Comment_DateTime	Sentiment
1	1	2	"Great video!"	'2023-03-10 10:23:00'	'pos'
2	2	3	"I didn't understand the point of this video"	'2023-03-11 15:02:00'	'neu'
3	1	5	"This video was really helpful, thanks!"	'2023-03-12 08:45:00'	'pos'
4	3	2	"I found this video quite boring"	'2023-03-13 17:30:00'	'neg'

5	4	4	"I'm looking forward to the next episode of this series!"	'2023-03-15 11:10:00'	'pos'
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Reactions:

Reaction_Id	User_Id	Video_Id	Reaction_type
1	1	1	'like'
2	2	3	'dislike'
3	1	5	'like'
4	3	2	'like'
5	4	4	'like'

Ad:

Ad_Id	Ad_Name	Ad_Type	Price_per_View	Agency_Id
1	"Summer Sale"	"image"	5	5
2	"Car Commercial"	"video"	10	4
3	"Soda Advertisement"	"short pause"	2	3
4	"Fashion Collection"	"image"	4	6
5	"Movie Trailer"	"video"	8	7

Location:

Location_Id	Location_Name	Cost_per_View
1	'North America'	2
2	'Europe'	3
3	'Asia'	1
4	'Australia'	4
5	'South America'	2

Ad Location

Ad_Id	Location_Id
1	1
2	2
3	3
4	4
5	5

Ad Video

Video_Id	Ad_Id
1	10
2	9
3	8
4	7
5	1

Earnings:

Earning_Id	Earning_Date	Amount	Creator_Id
1	'2023-04-01'	500	1
2	'2023-03-29'	750	2
3	'2023-03-27'	1000	3
4	'2023-03-25'	900	4
5	'2023-03-22'	1200	5

Query Insights:

1. The first query provides insight into the user behavior of John Smith. It shows the subscribed channels of John Smith in which videos have positive sentiment. This insight indicates that John prefers to watch videos that have a positive sentiment.
2. The second query provides information on the earnings of content creators in the past two months. The query can be used to analyze the performance of the platform and make decisions about the payment structure of content creators.
3. The third query is finding the ad category that has been used in the highest number of videos. This can help advertisers and content creators to make informed decisions on which ad categories to prioritize or use more frequently.
4. The fourth query retrieves the top 5 channels based on their total number of views and number of videos. The query is useful in identifying the channels that have the most engagement with their audience based on the number of views.
5. The fifth query is retrieving data related to the number of videos created and the amount earned by each user in the past 4 months. This query could be useful for the platform to track the performance of content creators and reward them accordingly.