# HISTORY OF DATABASE

The concept of a database existed long before computers. In these times, data was stored in journals, in libraries, and in hundreds of filing cabinets. Everything was recorded via paper — and that meant it took up space, was hard to find, and difficult to back up.

And then computers became available, and with them, the opportunity for better data management.

HISTORY OF DBMS

Charles Bachman was the first person to develop the Integrated Data Store (IDS) which was based on network data model for which he was inaugurated with the Turing Award (The most prestigious award which is equivalent to Nobel prize in the field of Computer Science.). It was developed in early 1960's.
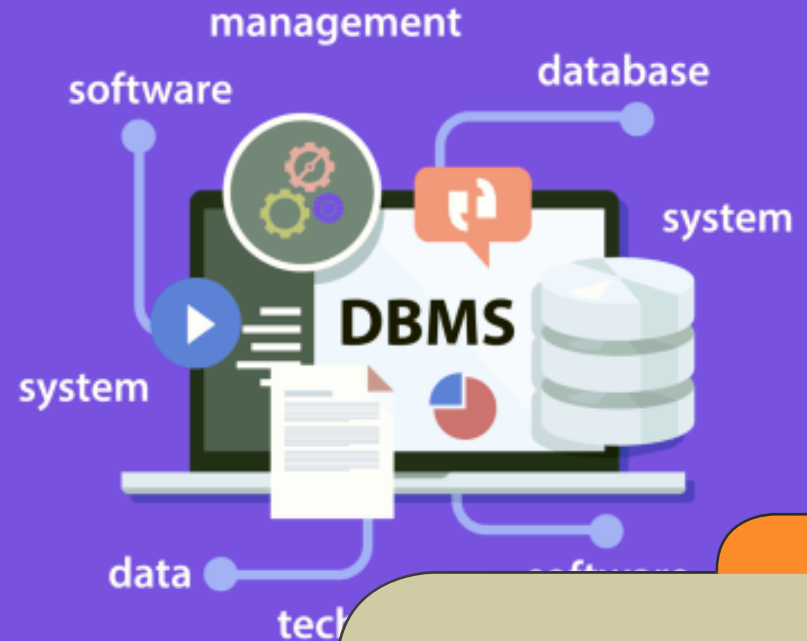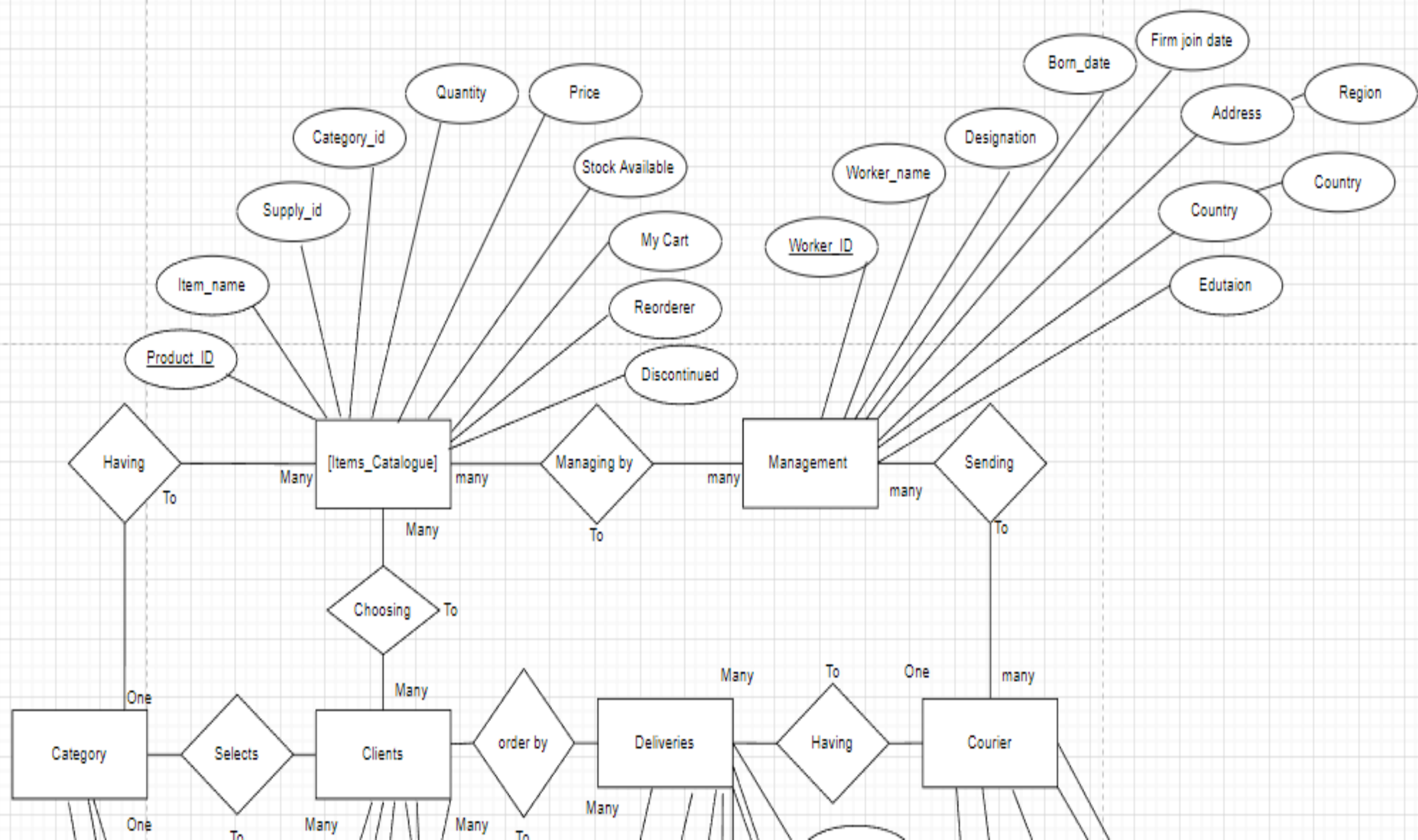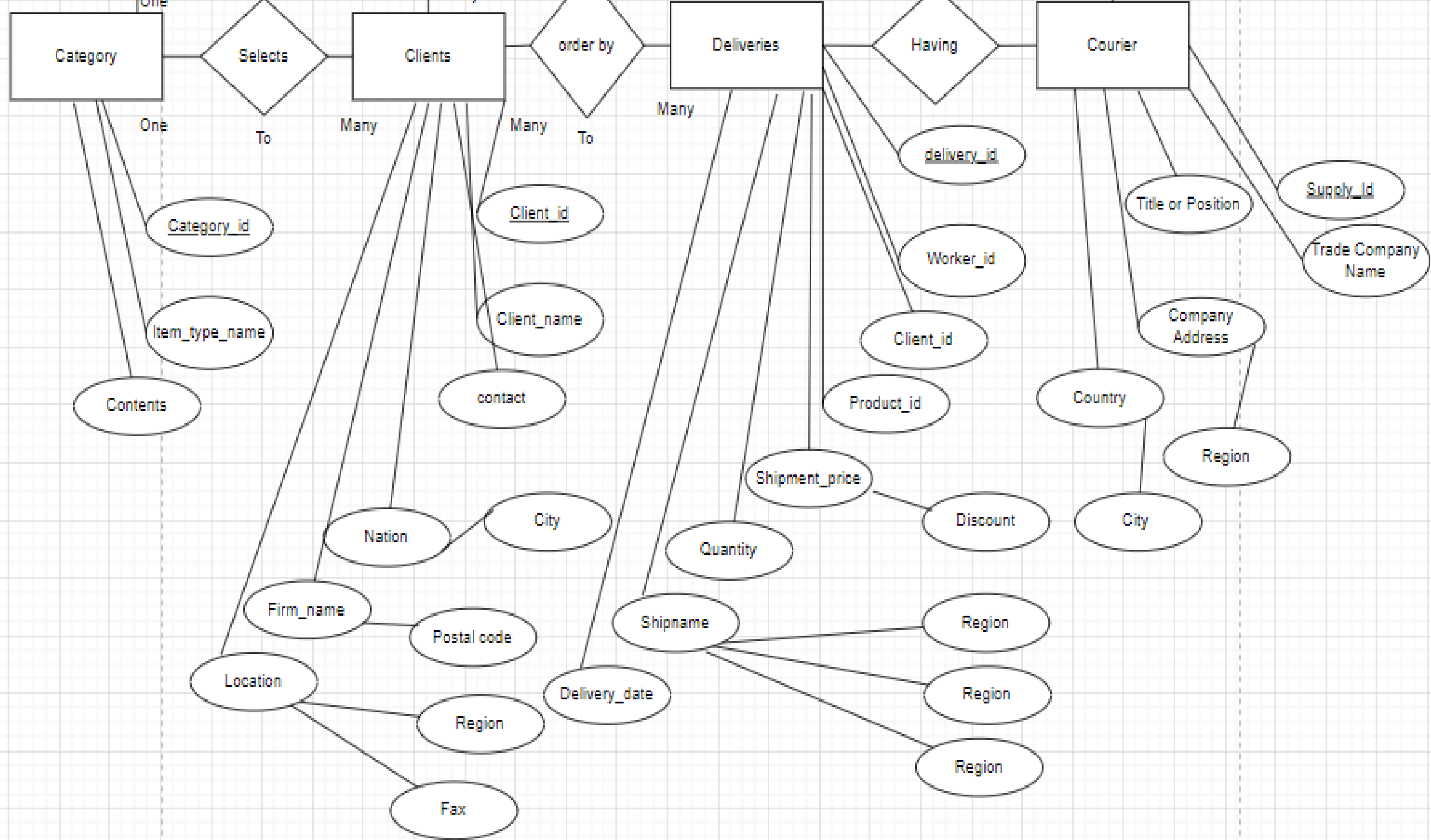
DEFINITION OF DBMS

A database management system (DBMS) is system software for creating and managing databases. A DBMS makes it possible for end users to create, protect, read, update and delete data in a database.

ER DIAGRAM OF TOPSHOP MANAGEMENT SYSTEM

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

Entity-Relationship Diagram

Attributes of [Items_Catalogue]: Product_ID, Item_name, Supply_id, Category_id, Quantity, Price, Stock Available, My Cart, Reorderer, Discontinued

Attributes of Management: Worker_ID, Worker_name, Designation, Born_date, Firm join date, Address, Region, Country, Country, Edutaion

Relationships:
- Category — One — Having — To — Many — [Items_Catalogue]
- Category — One — Selects — To — Many — Clients
- [Items_Catalogue] — Many — Managing by — To — many — Management
- [Items_Catalogue] — Many — Choosing — To — Many — Clients
- Management — many — Sending — To — many — Courier
- Clients — Many — order by — To — Many — Deliveries
- Deliveries — Many — Having — To — One — Courier

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

DATABASE CONSIST OF TOTAL 06 TABLES

TABLE # 01 (Clients)

	Client_ID	Client_NAME	Contact	Nation	cities	Firm_Name	postal_Code	Location	fax	Region	Contact_Designation
1	1	Sam	74512	Russia	Moscow	Traders lmtd	7411	sight 9 ohase 3 povski	45521479	NULL	Sales Representative
2	2	Mantraia	854215	Germany	Berlin	democare	7451	plot 5 9th seaville	174859637	NULL	Accounts Manager
3	3	Casemiro	54771236	England	London	Forty Sigms	8741	gazuka 5 north 4th highway	45452132	VE	HR Intern
4	4	Frade o Conor	7416	CHINA	Beijing	Marcose enterprises	3278	Wallstreet west st 42	45663279	NULL	Supervisor
5	5	Siman	854215	GREECE	Athens	Florwight	7451	plot 5 9th seaville	174859637	NULL	Programmer
6	6	Toretto Silva	21364257	UK	Birmingham	Maximos	7451	commercial site 3 phase 9	85441252	NULL	Supervsior
7	7	Samoa	79444	BARBADOS	BridgeTown	Fiscal Traders	9874	43rd sight 2nd wing hamsburgh	56632147	NULL	Receptionist
8	8	Samuel	7245234	BELGIUM	Brussels	Jaguar pvt lmt	8521	popua ganeva 4th west height	21364257	NULL	QA Engineer
9	9	Shawn	21288	UK	London	Forth Genrations	2354	mest side phase 04 plot no 342	99654123	NULL	Accounts Manager
10	10	Jigping	93211	CHINA	Beijing	Crosville industries	9812	12th wing 32 west plot 09	65123754	NULL	Sales Representative
11	11	Smith	5645	COLOMBIA	Bogota	Gfs Builders	8854	plot 70 south west phase 02 defense	98441236	NULL	Supervisor

Query executed successfully.   HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:01 | 46 rows

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

DATABASE CONSIST OF TOTAL 06 TABLES

TABLE # 02 (Items_Catalogue)

	Product_ID	Item_Name	Supply_ID	Category_ID	Quantity_Per_Unit	Price	Stock_Available	Units Added to my Cart	Reorder_Level	Discontinued
1	1	Lincofile Medics	2	3	10 bottles	19.22	45	0	12	0
2	2	Axact Solutions	1	4	15 liters	33.56	10	0	0	0
3	3	Dettol Soap	3	5	19 pcs	12.22	44	4	3	0
4	4	Cyber Solutions	1	4	88 products	87.22	45	13	1	0
5	5	Colgate toothpaste	2	5	19 pcs	81.22	71	2	15	0
6	6	Dell Laptops	1	4	17 pcs	36.2	14	0	74	0
7	7	Audionic speakers	3	1	3 pcs set	9112.33	87	0	89	0
8	8	Tapal Mixture	1	5	5.7 grams / pack	65.11	0	0	0	1
9	9	Tarang Tea Milk	5	2	50 ml / pack	54.47	0	8	0	1
10	10	Dentonic paste	2	5	3.4mg / pack	97	54	14	0	0
11	11	Peakfreans Biscuits	6	6	20 pcs / pack	85.44	11	1	13	0

✅ Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 42 rows

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

DATABASE CONSIST OF TOTAL 06 TABLES

TABLE # 03 (MANAGEMENT)

	Worker_ID	Worker_Name	Designation	Borndate	Firm Join Date	Address	City	Country	Region	Phone
1	1	Kery Wilson	HOD	1971-11-08 00:00:00.000	2005-12-03 00:00:00.000	west heights north street 4	Wales	UK	NULL	3221458
2	2	Wasif Qureshi	Receptionist	1988-11-08 00:00:00.000	2015-12-03 00:00:00.000	Nazimabad 4th phase hillside apt no 334	Karachi	Pakistan	NULL	32143657
3	3	Ford Ariksan	QA Engineer	1974-11-08 00:00:00.000	2008-12-03 00:00:00.000	6th strreet 4th phase wall street	Los Angelas	US	NULL	8544632
4	4	Talha Wasim	Accounts Manager	1975-09-09 00:00:00.000	1993-07-19 00:00:00.000	Fawara chowk 4th floor phase 02	Riyadh	Saudia Arabia	NULL	21336542
5	5	Ahsan Khan	Sales Representative	1980-03-02 00:00:00.000	2008-07-04 00:00:00.000	Alwari Street Atlantis Block 15 5th Banglow	London	England	NULL	65124987
6	6	Grime Wills	Supervisor	1968-12-16 00:00:00.000	2010-04-07 00:00:00.000	Times Sqaure 65th block 02nd floor Rifore Building	St Petersberg	Russia	NULL	63221459
7	7	Henry Kane	HR Intern	1988-06-12 00:00:00.000	2020-01-01 00:00:00.000	Rockwilhights 7th floor 4 apt 706	Vancouver	Canada	NULL	54126325
8	8	Ikram Shah	Programmer	1976-09-19 00:00:00.000	2012-06-03 00:00:00.000	FortFoures Society house 453 phase 9	Barcelona	Argentina	NULL	98745621
9	9	Waqas Arain	Accounts Manager	1981-04-08 00:00:00.000	2013-11-08 00:00:00.000	Al Naseer Housing apt 44	Jaddha	Saudia Arabia	NULL	65842315
10	10	Ford Ariksan	Sales Manager	1975-04-04 00:00:00.000	2018-05-02 00:00:00.000	hilltop resort 3rd floor h no 23	Baku	Uzbakistan	NULL	56324175

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Results | Messages

Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 20 rows

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

DATABASE CONSIST OF TOTAL 06 TABLES

TABLE # 04 (Category)

	Category_ID	Item_Type_Name	Contents
1	1	Electronic_Items	Washing machine,Bulbs,Tvs,microwave oven,Iron,Speakers etc
2	2	Tea/Milk	Milk Dry/Powder,tea masala,sugar,green leafs etc
3	3	Pharmaceuticals	Tablets,injections,sirups,vaccines,antibiotics etc
4	4	IT_Accesories	Rams,Roms,Hard drives,Power cables,Routers,printers,scanners,usb,webcams,chargers etc
5	5	Cleaning Compounds	Washing Powder,Anti bacterial Soaps,Anti Oxidents,spunges,vaccum,scrub,Spray Bottle etc
6	6	Eat_Items	poultry,eggs,nuts,meat,wholgrain,yogurt,fishes etc
7	7	Auto_Mobile_And_Accesories	Cars,bikes,traines,Buses,tyres,rickshaws,axel,Bonut,Headlights etc
8	8	Fashion	hat,shoes,glasses,watches,T_Shirts,Plan Pants,bracelets etc

Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 8 rows

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

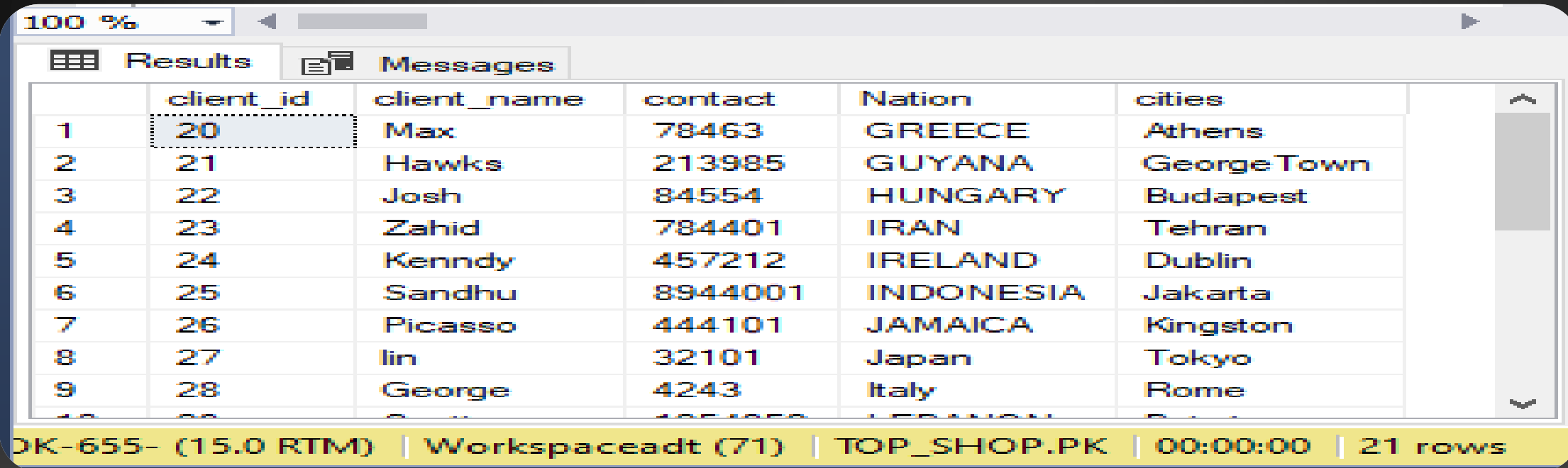**DATABASE CONSIST OF TOTAL 06 TABLES**

TABLE # 05 (Courier)

	Supply_ID	Trade_Company_Name	Trader_Name	Position or title	company_Address	city	Country	Region
1	1	Reactor Services	Josh De Silva	Audits Manager	12 street harnens site company plot 421	Beijing	China	NULL
2	2	Flora vales International Traders	Remo Felix	Export Administrator	Glexo Fishing Yard north 5th industrial highway ...	Malbourne	Australia	NW
3	3	TCS Couriers pvt lmtd	Wasif Ashfaq	Export Supervisor	7th floor east phase 3 plot 312	Gawader	Pakistan	NULL
4	4	WillowField pvt lmtd	Mendi O Conor	Taxation Agent	highlines north hamsberg 9th industrial phase	Captown	South Africa	NULL
5	5	Leopard Couriers	Sam Curran	Coordinator Foreign affairs	roadside north westfeild 11 phase plot 8411	Baku	Azerbaijan	NULL
6	6	DH Linkers Associates	Cillian Murphy	Accounting Manager	firm 783 road hadokam 3	Dhaka	Bangladesh	HA
7	7	Confined Traders	Benjamin Turner	Order Administrator	phase 771 north industrial site plot 311	Ohio	USA	NULL

Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 7 rows

TOP SHOP (B TO B) & (B TO C) ONLINE STORE

DATABASE CONSIST OF TOTAL 06 TABLES

TABLE # 06 (Deliveries)

	delivery_id	Client_ID	Worker_ID	Product_ID	shipment_price	Quantity	discount	ship_name	ship_city	ship_region	Delivery_Date
1	10248	25	12	17	56.3	54	0	Seaways carrier	Oslo	NULL	2008-07-04
2	10249	18	6	14	98.43	75	18	Consulate carrier	LiverPool	NULL	2013-11-04
3	10250	20	8	30	76.44	112	0	Alzarif Ship	Colombo	NULL	2000-11-14
4	10251	34	5	21	87.65	45	2	Yaris	Perth	NULL	2005-07-19
5	10252	16	9	11	85.44	21	78	WestHam	Maxico city	NULL	2020-04-11
6	10253	30	11	35	64.33	42	4	WingSharp	Peshawar	NULL	2017-07-02
7	10254	12	4	18	96.63	18	34	Sewory	Dhaka	NULL	2015-06-06
8	10255	21	10	17	64.44	74	33	Willfield	Manchester	NULL	2019-10-06
9	10256	12	9	26	54.32	66	78	Commute ship	Dubai	NULL	2018-07-04
10	10257	23	3	17	753.55	123	0	Matricore	Khatmandu	NULL	2021-04-09

Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 46 rows

QUERIES

QUESTION : DISPLAY THE RECORDS
FROM CUSTOMERS TABLE RANGING
CUSTOMERS IDS FROM 20 TO 40.

Query : select client_id,client_name,contact,Nation,cities from clients where client_ID between 20 and 40

100 %

Results | Messages
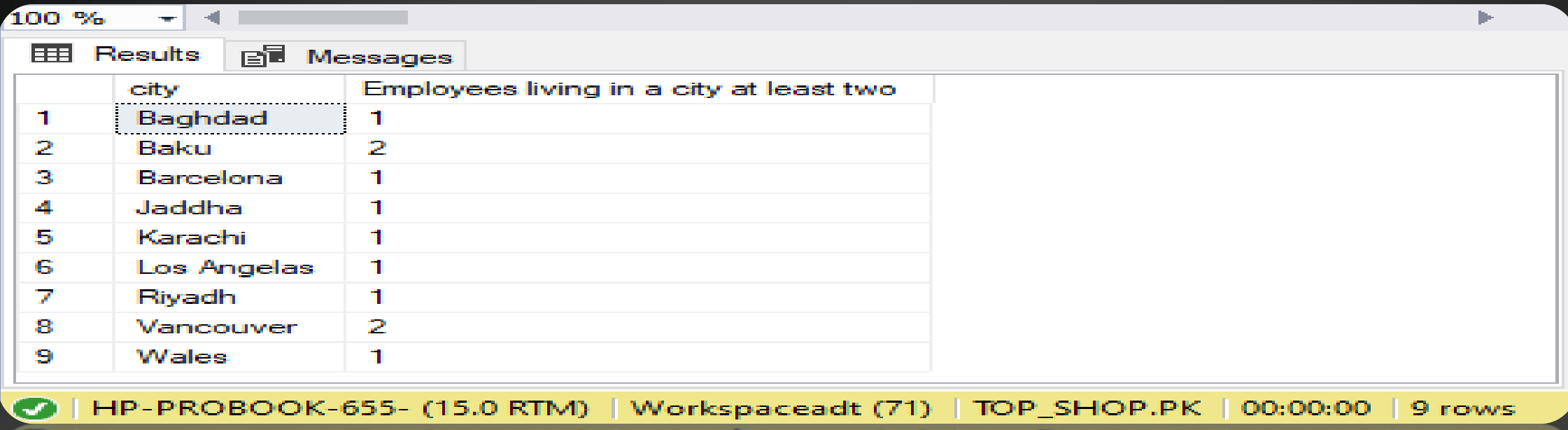
	client_id	client_name	contact	Nation	cities
1	20	Max	78463	GREECE	Athens
2	21	Hawks	213985	GUYANA	GeorgeTown
3	22	Josh	84554	HUNGARY	Budapest
4	23	Zahid	784401	IRAN	Tehran
5	24	Kenndy	457212	IRELAND	Dublin
6	25	Sandhu	8944001	INDONESIA	Jakarta
7	26	Picasso	444101	JAMAICA	Kingston
8	27	lin	32101	Japan	Tokyo
9	28	George	4243	Italy	Rome

OK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 21 rows

QUERIES

QUESTION : RETRIEVE THE NUMBER OF EMPLOYEES IN EACH CITY IN WHICH THERE ARE AT LEAST 2 EMPLOYEES.

Query : select city,count(city) as [Employees living in a city at least two] from management where city in (select city from management group by city having count(city)<=2) group by city
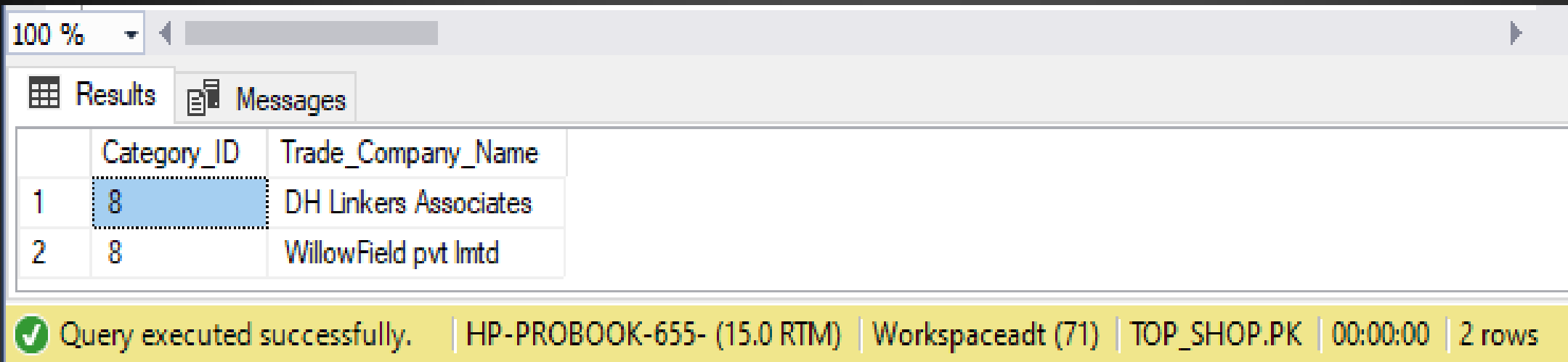
	city	Employees living in a city at least two
1	Baghdad	1
2	Baku	2
3	Barcelona	1
4	Jaddha	1
5	Karachi	1
6	Los Angelas	1
7	Riyadh	1
8	Vancouver	2
9	Wales	1

HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 9 rows

QUERIES

QUESTION : CREATE A REPORT THAT SHOWS ALL COMPANIES BY NAME THAT SELL PRODUCTS IN CATEGORYID 8. (TABLES : SUPPLIER & PRODUCTS)

Query : select [Items_Catalogue].Category_ID,courier.Trade_Company_Name from [Items_Catalogue] join courier on ([Items_Catalogue].supply_id= courier.supply_id) where Category_ID = 8 group by [Items_Catalogue].Category_ID,courier.Trade_Company_Name

	Category_ID	Trade_Company_Name
1	8	DH Linkers Associates
2	8	WillowField pvt lmtd

✅ Query executed successfully. | HP-PROBOOK-655- (15.0 RTM) | Workspaceadt (71) | TOP_SHOP.PK | 00:00:00 | 2 rows

DATABASE MANAGEMENT SYSTEM

ADVANTAGES

- **Controls database redundancy:** All the data is stored in one place, and that recorded in the database and hence controls the redundancy in the database.
- **Data sharing:** DBMS allows users with authority to share the data in the database with multiple users.
- **Easy Maintenance:** The centralized nature of the database helps in the easy maintenance of the data.
- **Multiple user interfaces:** It offers a number of user interface to multiple users.

DISADVANTAGES

- **Cost of software and hardware:** It requires a number of high powered processors and large size memory to run DBMS.
- **Size:** a Large amount of storage size is required to run DBMS efficiently.
- **Complexity:** DBMS adds an additional layer of complexity to the data.
- **Higher impact of failure:** DBMS faces a higher risk of losing the data since all the data is stored at a single location and a catastrophic failure can wipe it all.

DATABASE MANAGEMENT SYSTEM

APPLICATIONS

➢ **Railway Reservation System** – The railway reservation system database plays a very important role by keeping record of ticket booking

➢ **Library Management System** – Now-a-days it's become easy in the Library to track each book and maintain it because of the database.

➢ **Banking** – Banking is one of the main applications of databases. We all know there will be a thousand transactions through banks daily and we are doing this without going to the bank.

➢ **Social Media Sites** – By filling the required details we are able to access social media platforms. Many users sign up daily on social websites such as Facebook, Pinterest and Instagram. All the information related to the users are stored and maintained with the help of DBMS.

19 THANKYOU