

Group 18

Database Fundamentals

Part 1: Case Scenario

Members

Tan Ae Le [19003805] - CEO of Company

Kwan Jia Chi [21007000] - Database Designer

Chong Kin Tze [21003975] - User of Company

Lam Hao Cheng [19029222] - Database Team Leader

Masuma Shariff [20066825] - Database Project Manager

Company Chosen: Microsoft

Business description

Microsoft corporation was founded in 1975 and focuses on connecting people and bridging the gap between technology and people. Our mission is to enable people and businesses throughout the world to realize their full potential by creating technology that transforms the way people work, play, and communicate.

We offer a range of products and services which include developing, licensing and supporting a range of software requirement products and services to the world. We develop and market software, services, and hardware devices that deliver new opportunities, greater convenience, and enhanced value to people's lives.

Furthermore, we also conduct research and contribute to the greater technological advancements that will be required for the future generation. We create new opportunities for collaborations and continuously improve our service provision and internal processes through our business rules.

Business Requirement

Firstly, Microsoft wishes to establish and maintain management accountability to owners by allocating rights and obligations amongst Board members, managers, and shareholders in a fair and equitable manner. This will be achieved through the business rules that have to be abided by.

The second goal is to provide a framework for management and the heads to be able to define the clear goals and understand the written business rules and plan in a clear manner.

Furthermore, Microsoft's goal is to strengthen and protect our corporate integrity and ethical business practises culture. The fairness in the business is a required matter and any issues faced by the staff should be dealt with.

Lastly, resource efficiency and holding people accountable for their stewardship of such resources is encouraged. This is to ensure that there is no wastage of resources and ensure that everyone has access to the resources that they require at any given time.

Entities:

1. Person
2. Branch
3. Model
4. Supplier
5. Courier
6. Staff

7. Stock
8. Product
9. Sales
10. Delivery

Business Rules:

Product:

- All products will have their own product ID and model number.
- Products will have a short description for each of them.

Model:

- Different types of model will have different model numbers and names.
- All models will have their own model type.
- For certain model, there will be different specifications like Storage and RAM.
- Price will be stated.

Person:

- Every person will have a different ID to allow the system to recognize the employee.
- Name, address, phone number, date of birth of the employee must be included.

Courier:

- Each courier have their own ID to differentiate the courier.
- The name, type and phone number of the contractor must be included.
- The price for each individual courier are to be stated.

Sales:

- Sales ID must be included for every sale.
- Customer ID must be included.
- Date of the order must be recorded.
- Mode of purchase must be stated.
- Customers can choose to pick up at a retail store or to be delivered to their house.
- Status must be given about the availability of the stock and remark must be given to notify the customer about their purchases.

Staff:

- Every staff member has their own ID for identification.
- Their salary must be stated clearly.

Delivery:

- Deliveries have their own unique ID.
- Departure date and arrival date must be recorded.
- Status of the delivery, departure date, arrival date and time must be shown to the customer.
- Sales ID and Courier ID is provided.
- Tracking number is given.

- Departure date and arrival date and time.

Branch:

- The ID and the address of the branch must be recorded clearly.
- Each branch has one manager present.

Supplier:

- Every supplier has their unique ID.
- Supplier's phone number and address are to be stated.

Stock:

- Stock ID must be recorded clearly to prevent confusion.
- Branch ID and Supplier ID is stated
- The quantity of the stock must be recorded to increase inventory and stock management efficiently.
- Stock date is provided

Business Problem:

An influx and growth of the need to store company data has led to a poorly designed database. Due to this, Microsoft Corporation requires a team of database developers to help fix the issues and problems that are affecting the company as a whole. The following are the Business Problems Microsoft is experiencing.

A data cluster consisting of multiple servers working together gives multiple levels of back up. Since if it is a single server database, if the server goes down, so does the company. This will lead the company to defeat as best-laid plans could very quickly go to waste. From short term costs like productivity and revenue losses to more enduring consequences like compromised data and loss of brand reputation, system downtime has the potential to inflict significant damage to the company.

Since the company currently runs on a single server database, there are chances at which the database might be down suddenly. This can happen mainly because of data clusters since the amount of data needed to carry is increasing. The more clients we have, the more stress that is being exerted towards the database. This could lead to unorganized and scattered data information that affects the company's reputation and possibly lead to compromised data.

Furthermore, in relation to the database's small capacity of storage for the data, the company has been facing constant data freezing and paralysis. Thus, when the employees insert data into the database system, it becomes inoperable leading to the employees not being able to insert anymore data. As a result, the employees have expressed dissatisfaction with the database system and the way it constantly freezes. This also relates to the database retrieval methods that take a long time to process. Again, this has led to employees reduced work efficiency and slowed working times.

Finally, due to constant freezing and low-retrieval time in the poorly designed database system, there has been an increase in overwritten data and wrongly placed information. As a result, personal data on suppliers and customers has been overwritten and lost beyond retrieval. This has been a great loss to the trust between people connected to the company and the information that the company has access to. Thus, there is a need to correct the issue of user personal information compromise.

Therefore, after the User and the CEO of the Microsoft Corporation have expressed such issues to the database team, it is necessary to come up with solutions that will avoid further problems from arising in the Microsoft Corporation and the people involved with the company. Therefore, with constant surveillance and cooperation between the Database team and the company, there will be a chance for a more updated and relevant database management system.

Project Plan:

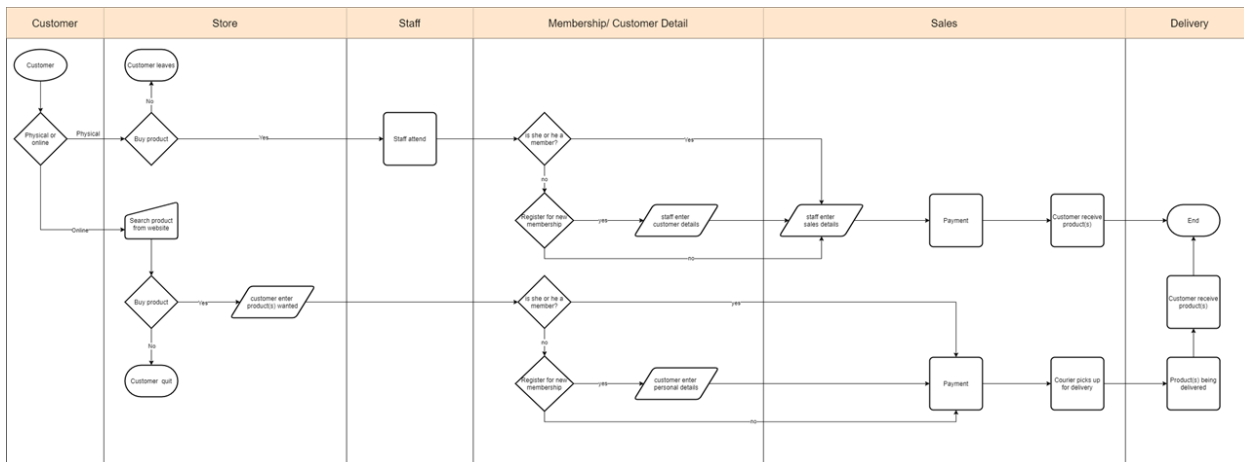
Task	Responsible	Complete by	Duration	Deliverables	Status
Provide a company case scenario and entities to the Database design team	User: Chong Kin Tze Database Team Leader: Lam Hao Database Designer: Kwan Jia Chi Project Manager: Masuma Shariff	14th June	1 week	Google Document	Done
Presentation of the company's business requirements, problems and business itself to the database design team	All	13th June	4 hours	Google Document MS Teams	Done
Complete an in-depth analysis and research on the business through interviews and surveys	Database Team Leader: Lam Hao Cheng Database Designer: Kwan Jia Chi Project Manager:	25th June	1 week	Google Forms Google Document MS Teams	Done

	Masuma Shariff				
Construct the business scenario using a flowchart diagram	Database Team Leader: Lam Hao Cheng Database Designer: Kwan Jia Chi Project Manager: Masuma Shariff	20th June	3 days	Diagrams.net Google Document	Done
Database design team to present the flowchart diagram to the User	Database Team Leader: Lam Hao Cheng Database Designer: Kwan Jia Chi User: Chong Kin Tze Project Manager: Masuma Shariff	27th June	1 week	MS Teams Google Slides Google Document	Done
Database design team to design the concept of the business database - Main output ERD and Business rules	Database Team Leader: Lam Hao Cheng Database Designer: Kwan Jia Chi Project Manager: Masuma Shariff	27th June	1 week	Diagrams.net Google Document	Done
Database design team to design the logical structure of the database	Database Team Leader: Lam Hao Cheng Database Designer: Kwan Jia Chi	29th June	1 week	Google Document	Done
The Database team has to	Database Team	1st July	2 weeks	ORACLE	Done

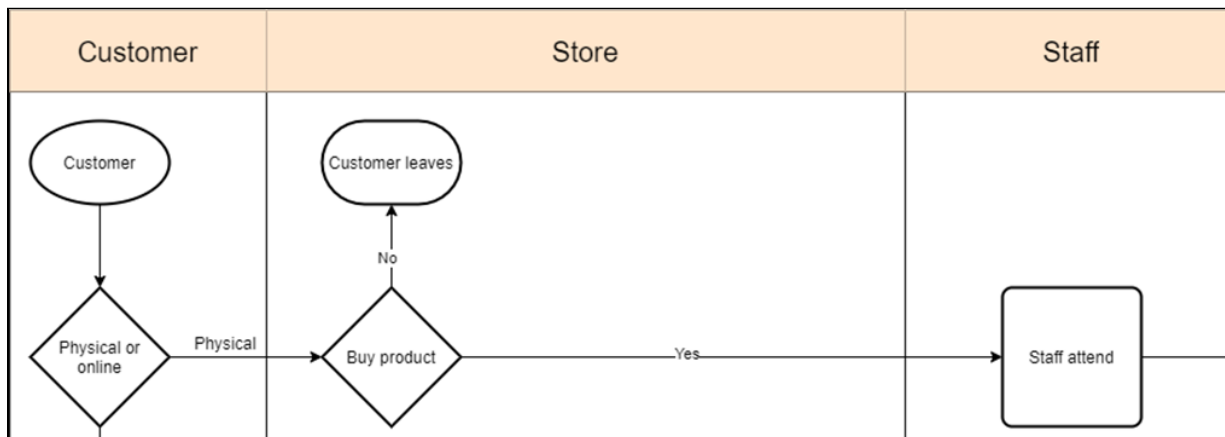
create the database and implement all necessary plans	<p>Leader: Lam Hao Cheng</p> <p>Database Designer: Kwan Jia Chi</p> <p>Project Manager: Masuma Shariff</p>			Google Document	
Create User queries according to what questions and the information that has been created.	All	2nd July	1 week	Google Document	Done
The database table will be populated with the help of the user	<p>Database Team Leader: Lam Hao Cheng</p> <p>Database Designer: Kwan Jia Chi</p> <p>User: Chong Kin Tze</p> <p>Project Manager: Masuma Shariff</p>	3rd July	2 weeks	<p>ORACLE</p> <p>Excel Sheets</p> <p>Google Document</p> <p>MS Teams</p>	Done
Final Testings of the database to be done, and any anomalies to be fixed	All	6th July	1 week	<p>ORACLE</p> <p>Google Document</p> <p>MS Teams</p>	Done
Final Presentation and Turn ins	All	8th July	1 week	<p>ORACLE</p> <p>Google Document</p> <p>MS Teams</p>	Done

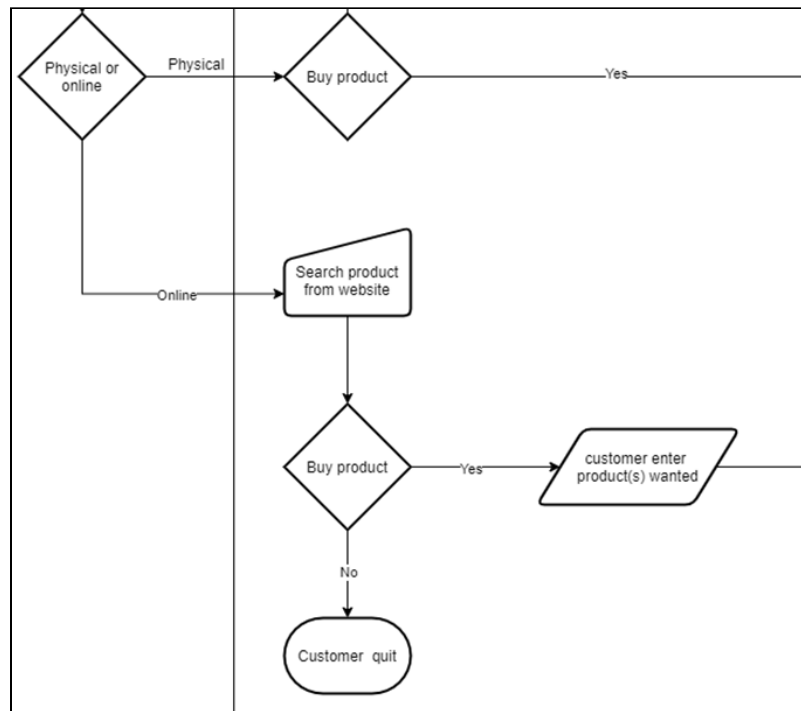
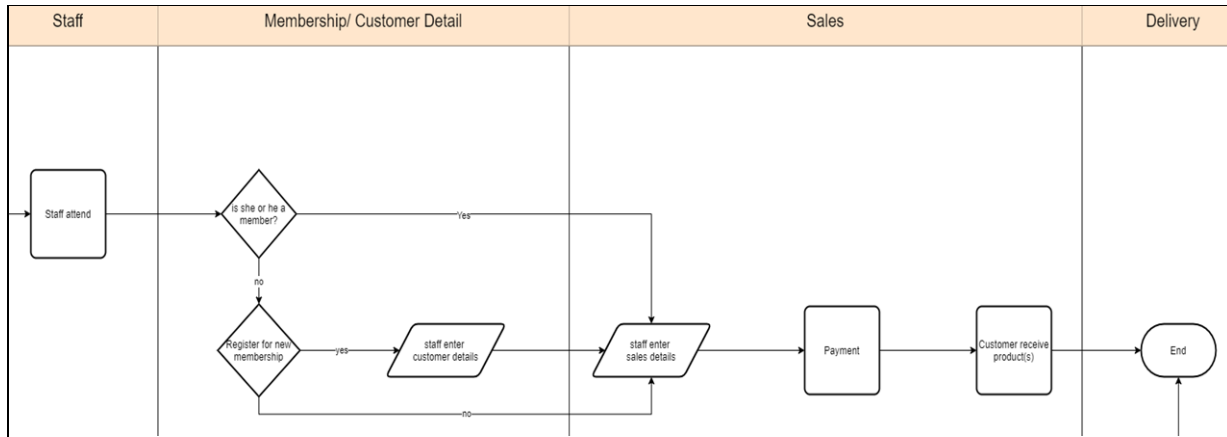
Part 2:

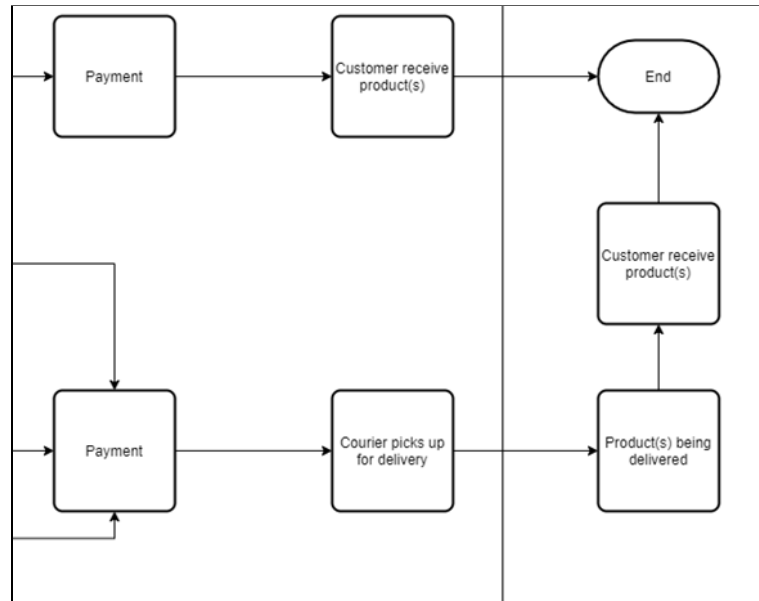
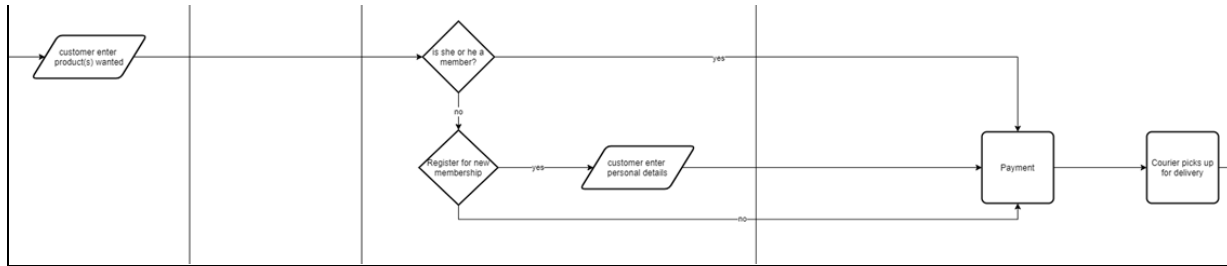
Flowchart Diagram:



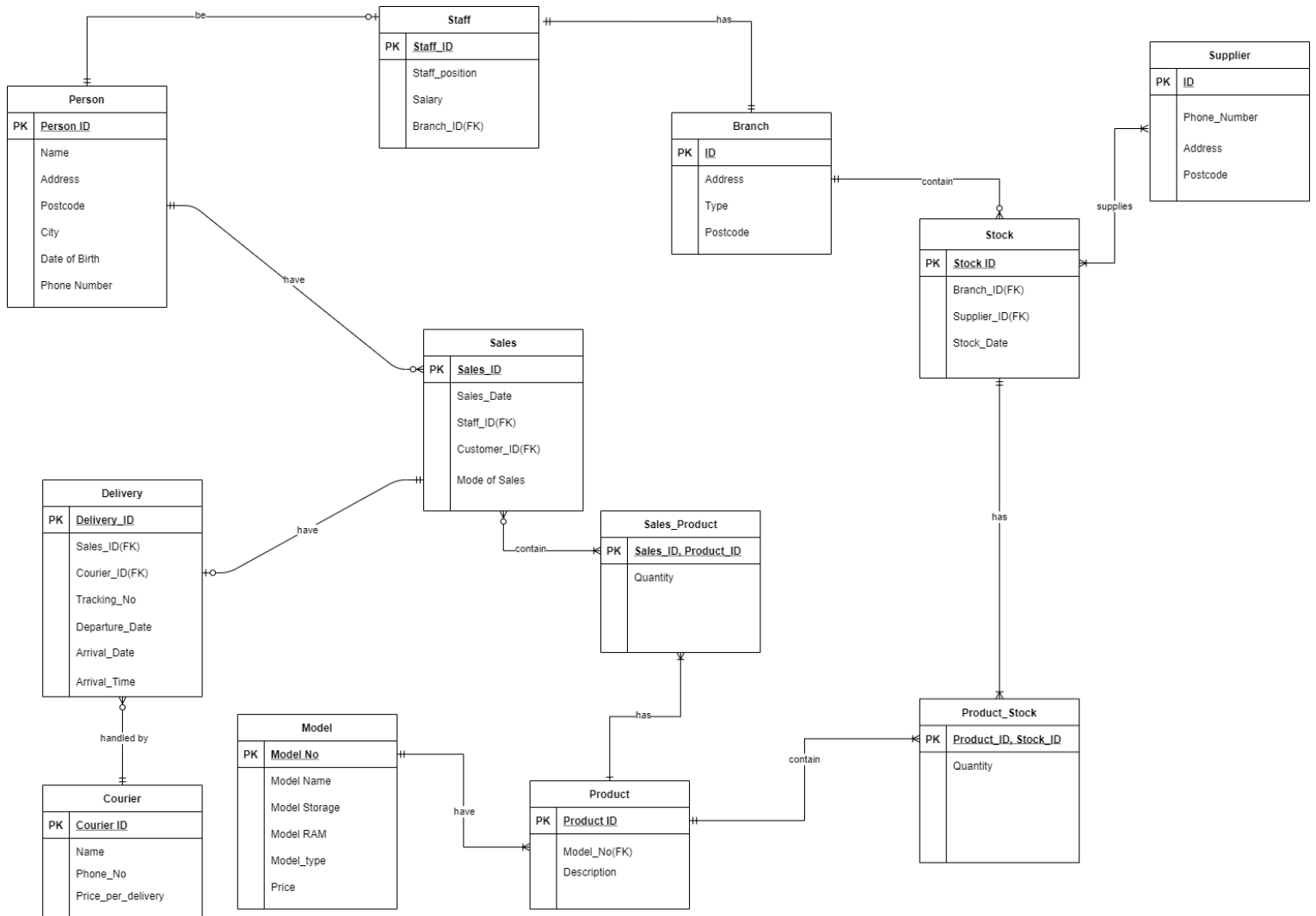
Sections of Flowchart zoomed in:







Entity Relationship Diagram (ERD):



RDM:

PERSON

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Person_ID	This is the unique identifier of the Person's table. It includes customers alongside people in	NO	PK	NUM(4)	It is a number code with 4 values, thus has the NUM(4) data type.

	the company.				
Name	This is the First name and surname of the person. Eg. Lam Hao Cheng	NO		CHAR(30)	This is a string and is required to only be characters with a length of 30.
Address	This is the personal address and home of the person.	NO		VARCHAR2(50)	It is a string variable with special characters used. Thus the longest data point has 50.
Phone No	This is the contact information and means of communication.	NO		VARCHAR2(15)	This is a phone number, but it was set as VARCHAR since it had the character () and -
DOB	This is the birth-date of the customer or employee under the company. This may lead the company to wishing them on their dates.	NO		DATE	This is a date format, thus the data type used is only Date.
Postcode	This is the postcode that can be used to send mailings or letters to them.	NO		NUMBER(5)	This is a number variable of 5 characters. Thus set as NUM(5).
City	This is the residence city of the person.	NO		CHAR(15)	This is the City that only has characters. The longest City had a character length of 15.
Gender	This is the biological gender of the person for record purposes.	NO		CHAR(1)	This only had one character which was either 'F' or 'M'.

BRANCH

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Branch_ID	This is a unique identifier that is used to differentiate between the different branches under the	NO	PK	VARCHAR2(4)	It is a string variable with text value and numbers. Thus the longest data point has 4 characters.

	company.				
Address	This is the physical address and location of the branch that will be required by customers.	YES		VARCHAR2(50)	It is a string variable with special characters used. Thus the longest data point has 50.
Type	This is to show whether the branch is an online one or a physical branch. Eg. Retail or Online	YES		CHAR(10)	This is only text that shows the type of branch with different lengths. The longest has 10 characters.
Postcode	This is the postcode address in which physical customer complaints or company letters can be sent.	YES		NUM(5)	This is a number variable of 5 characters. Thus set as NUM(5).

MODEL

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Model_No	This is the specific number that is given to the model that the business has. It is unique to the model.	NO	PK	VARCHAR2(4)	This is data that has a string variable of different length with the 4 characters.
Model_name	This is the name of the model that is used to be presented to the customers.	NO		VARCHAR2(30)	This is data that has a string variable with a maximum data length of 10 characters.
Model_storage	This is the amount of space that the particular product has available. The unit used is Gigabytes (GB)	YES		NUM(5)	This is a value with numbers. It has a length of 5 values.
Model_RAM	This is the amount of random access memory that the particular product has. It is used to	YES		NUM(5)	This is a value with numbers. It has a length of 5 values.

	identify if a product is purchasable by certain customers.				
Model_type	This shows what the product is and under what category of model the product falls under. These can be Operating System Laptop and so on.	NO		VARCHAR2(20)	This is data that has a string variable with a maximum data length of 20 characters.
Model_Price	This is the total selling price that the particular model product will fall under.	NO		NUM(10,2)	This is number values that have a decimal also, which is why it has the NUM(10,2)

SUPPLIER

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Supplier_ID	This is the unique identifier for the supplier that will be conducting business with our company.	NO	PK	VARCHAR2(4)	It is a string variable with text values also. The maximum character is 5.
Phone_No	This is the phone number of the manager that is in charge of the product's final destination to the company warehouse.	NO		VARCHAR(15)	This is a phone number, but it was set as VARCHAR since it had the character () and -
Address	This is the physical address of where the suppliers headquarters are.	NO		VARCHAR2(50)	It is a string variable with special characters used. Thus the longest data point has 50.
Postcode	This is the postcode that can be used for further physical communication with the suppliers.	NO		NUM(5)	This is a number variable of 5 characters. Thus set as NUM(5).

COURIER

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Courier_ID	This is the unique identification that is given to the delivery service. It is used in order to ensure clear delivery.	NO	PK	VARCHAR 2(5)	This is data that has a string variable with a data length of 5 characters.
Name	This is the name of the delivery service that is being used. In this case, it will involve the full name of the company, eg. FedEx.	NO		CHAR(10)	This is data that has a string variable with a maximum data length of 10 characters.
Phone_No	This is the phone No of the person in charge of the courier. It is the contact information that will be shared in the case that there are any issues.	NO		VARCHAR 2(15)	This is a phone number, but it was set as VARCHAR since it had the character () and -
Price_per_delivery	This is the total price of the products that the customer buys.	NO		NUM(3)	This is a 3 digit number and a number variable.

STOCK

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Stock_ID	This is the unique identification given to what stocks are present in the company and what have arrived from supplier(s).	NO	PK	VARCHA R2(8)	It is a string variable with text characters used. The maximum has 8 characters.
Supplier_ID	This is the unique identification of the people that deliver the products to be sold by the Microsoft Corporation.	NO	FK	VARCHA R2(5)	It is a string variable with text values also. The maximum character is 5.
Stock_Date	This is the date in	NO		DATE	This is a date format,

	which the products from the supplier came into the business which is recorded.				thus the data type used is only Date.
Branch_ID	This is the branch identification in order to identify which branch has done a transaction.	NO	FK	VARCHAR2(4)	It is a string variable with text characters used.

PRODUCT

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Product_ID	This is the unique identifier that is given to all the products that are in the business.	NO	PK	VARCHAR2(4)	This is data that has a string variable of different lengths mixed with numbers and letters.
Model_no	This is the specific number that is given to the product models in the business.	NO	FK	VARCHAR2(10)	This is data that has a string variable with a maximum data length of 10 characters.
Description	This is a short word that gives the specifications of the product.	NO		VARCHAR2(30)	This is data that has a string variable of different length with the highest being 30.

STAFF

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Staff_ID	This is the unique identifier that is given to the employees that work in the company.	NO	PK	NUM(4)	This is a number variable of 4 number characters. Thus set as NUM(4).
Position	This is the staff position and what they are responsible for. These include Salesperson and Manager.	NO		CHAR(11)	This is a string variable of different lengths with the highest being 11 characters.

Salary	This is the salary of the employees in the company, and thus can range from one employee to another.	NO		NUM(4)	This is also only numbers that have a max length of 4.
Branch_ID	This is the branch identification in order to identify which branch has done a transaction.	NO	FK	VARCHAR2(4)	It is a string variable with text characters used.

PRODUCT_STOCK

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Product_ID	This is the ID from Product table which helps identify the products in stock from supplier	NO	PK	VARCHAR2(4)	This is data that has a string variable of different lengths mixed with numbers and letters.
Stock_ID	This is the ID from Stock table which indicate the in stock from supplier	NO	PK	VARCHAR2(8)	It is a string variable with text characters used. The maximum has 8 characters.
Quantity	This is the amount of products that are available in the stock, particularly in the warehouse.	NO		NUM(5)	This is only a number with 5 digits. Thus that is the max.

SALES

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Sales_ID	This is the unique identifier that will be given to the orders that each customer makes.	NO	PK	VARCHAR2(7)	It is a string variable with special characters used. Thus the longest data point has 7 characters.
Sales_date	This is the specific date that the order from the customer was made.	NO		DATE	This is only in a date format since it is a date.

Staff_ID	This is the specific and unique identifier that will determine the staff member.	NO	FK	NUM(4)	This is only numbers, thus the max number of the ID is 4.
Cust_ID	This is the unique identifier to determine the customer in the business.	NO	FK	NUM(4)	This is also only numbers that have a max length of 4.
Mode of Sales	This is the method in which the sales were done. Eg. Online or Retail.	NO		CHAR(20)	This is a string with a highest character length of 20.

SALES_PRODUCT

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Sales_ID	This is the identification that will enable the business to identify the sales that have been made.	NO	PK	NUMBER(5)	It is a string variable with text value and numbers. Thus the longest data point has 7 characters.
Product_ID	This is the unique identifier for the products that are sold in the business.	NO	PK	VARCHAR 2(5)	This is data that has a string variable of different lengths mixed with numbers and letters.
Quantity	This is the amount of products that are sold in a precise amount in order to track the sales.	NO		NUMBER(5)	This is a number value with a maximum of 5 digits.

DELIVERY (event table)

Attribute Name	Description	NULL	KEY	Data Type	Justification for data type
Delivery_ID	This is the unique	NO	PK	VARCHAR	This is data that

	identifier that will be given to products that have already been delivered/			2(5)	has a string variable with a data length of 5 characters.
Sales_ID	This is the identification that will enable the business to identify the sale that has been made.	NO	FK	VARCHAR 2(7)	This is data that has a string variable with a data length of 7 characters.
Courier_ID	This is the identification in order to figure out which delivery service the products are being sent to the customers with.	NO	FK	VARCHAR 2(5)	This is data that has a string variable with a data length of 5 characters.
Tracking_No	This is the number that will track the courier that is going on.	NO		VARCHAR(2)20	This is a string variable that also has number values in the data.
Dep_date	This is the date that will be recorded for when the product has been shipped and is on the way to the customer.	NO		DATE	This is a date format, thus the data type used is only Date.
Arrival_date	This is the date that the customer has received the particular delivery.	NO		DATE	This is a date format, thus the data type used is only Date.
Arrival_time	This is the particular time that the customer received the package/delivery from the product they purchased.	NO		DATE	This is a date format, thus the data type used is only Date.

Business Rules:

Product:

- All products will have their own product ID and model number.
- Description will be explained in product colour or sizes.

Model:

- Different types of model will have different model numbers and names.
- All models will have their own model type.
- For certain models there will be specifications like storage and RAM.
- The model price will be stated.

Person:

- Every person will have a different ID to allow the system to recognize the employee.
- Name, address, phone number, date of birth of the employee must be included.

Courier:

- Each courier have their own ID to differentiate the courier
- The name, type and phone number of the contractor must be included.
- The price for each delivery from individual courier are to be stated.

Sales:

- Sales ID must be included for every sale.
- Customer ID must be included.
- Date of the order must be recorded.
- Mode of purchase must be stated

Staff:

- Every staff member has their own ID for identification also which branch they are working under.
- Their salary must be stated clearly.

Delivery:

- Deliveries have their own unique ID.
- Sales and Courier ID is provided.
- Tracking number is provided to the customers.
- Departure date and arrival date and time must be recorded.

Branch:

- The ID and the address of the branch must be recorded clearly.
- Each branch has one manager present.

Supplier:

- Every supplier has their unique ID
- Supplier's phone number and address are to be stated

Stock:

- Stock ID must be recorded clearly to prevent confusion.
- Branch ID and supplier ID are clearly stated.
- The date in which the stocks arrive is also given.

Part 3:

Script Listing - First 20 data:

```
-----
-- NOTE: SEG1201 ASSIGNMENT 2 GROUP 18
-- this script consists of a sample data of Microsoft Corporation
--
-----

CLEAR SCREEN
DROP TABLE DELIVERY;
DROP TABLE SALES_PRODUCT;
DROP TABLE SALES;
DROP TABLE PRODUCT_STOCK;
DROP TABLE PRODUCT;
DROP TABLE STOCK;
DROP TABLE STAFF;
DROP TABLE COURIER;
DROP TABLE SUPPLIER;
DROP TABLE MODEL;
DROP TABLE BRANCH;
DROP TABLE PERSON;
alter session set NLS_DATE_FORMAT='DD/MM/YYYY';

CREATE TABLE PERSON
(
    Person_id      NUMBER(4) PRIMARY KEY,
    Name           CHAR(30),
    Address        VARCHAR2(50),
    Phone_Num      VARCHAR2(15),
    DOB            DATE,
    Postcode       NUMBER(5),
    City           CHAR(15),
    Gender         CHAR(1)
);

CREATE TABLE BRANCH
(
    Branch_id      VARCHAR2(4) PRIMARY KEY,
    Address        VARCHAR2(50),
    Type           CHAR(10),
    Postcode       NUMBER(5)
);

CREATE TABLE MODEL
```

```

(
    Model_no          VARCHAR2(4) PRIMARY KEY,
    Model_name        VARCHAR2(30),
    Model_storage     NUMBER(5),
    Model_RAM         NUMBER(5),
    Model_Type        VARCHAR2(20),
    Model_Price       NUMBER(10,2)
);

CREATE TABLE SUPPLIER
(
    Supplier_id       VARCHAR2(5) PRIMARY KEY,
    Phone_Num         VARCHAR2(15),
    Address            VARCHAR2(50),
    Postcode          NUMBER(5)
);

CREATE TABLE COURIER
(
    Courier_id        VARCHAR(5) PRIMARY KEY,
    Name              CHAR(10),
    Phone_No          VARCHAR2(15)
);

CREATE TABLE STAFF
(
    Staff_id          NUMBER(4) PRIMARY KEY,
    Position           VARCHAR2(15),
    Salary             NUMBER(4),
    Branch_id         VARCHAR2(4),
    FOREIGN KEY (Branch_id) references BRANCH(Branch_id)
);

CREATE TABLE PRODUCT
(
    Product_id        VARCHAR(4) PRIMARY KEY,
    Model_no          VARCHAR2(10),
    Description        VARCHAR2(30),
    FOREIGN KEY (Model_no) references MODEL(Model_no)
);

CREATE TABLE STOCK
(
    Stock_id          VARCHAR2(8) PRIMARY KEY,
    Supplier_id       VARCHAR2(5),

```

```

    Stock_date      DATE,
    Branch_id       VARCHAR2(4),
    FOREIGN KEY (Branch_id) references BRANCH(Branch_id)
);

CREATE TABLE PRODUCT_STOCK
(
    CONSTRAINT PK_PRODUCT_STOCK PRIMARY KEY (Product_id, Stock_id),
    Product_id      VARCHAR(4),
    Stock_id        VARCHAR(8),
    Quantity        NUMBER(5),
    FOREIGN KEY (Product_id) references PRODUCT(Product_id),
    FOREIGN KEY (Stock_id) references STOCK(Stock_id)
);

CREATE TABLE SALES
(
    Sales_id        VARCHAR2(7) PRIMARY KEY,
    Sales_date      DATE,
    Staff_ID        NUMBER(4),
    Cust_ID         NUMBER(4),
    Mode_sales      CHAR(10),
    FOREIGN KEY (Staff_id) references STAFF(Staff_id),
    FOREIGN KEY (Cust_id) references PERSON(Person_id)
);

CREATE TABLE SALES_PRODUCT
(
    CONSTRAINT PK_SALES_PRODUCT PRIMARY KEY (Sales_id, Product_id),
    Sales_id        VARCHAR2(7),
    Product_id      VARCHAR2(4),
    Quantity        NUMBER(5),
    FOREIGN KEY (Sales_id) references SALES(Sales_id),
    FOREIGN KEY (Product_id) references PRODUCT(Product_id)
);

CREATE TABLE DELIVERY
(
    Delivery_id     VARCHAR2(5) PRIMARY KEY,
    Sales_id        VARCHAR2(7),
    Courier_id       VARCHAR2(5),
    Tracking_no     VARCHAR2(20),
    Dep_date        DATE,
    Arrival_date    DATE,

```

```

Arrival_time    NUMBER(4),
FOREIGN KEY (Sales_id) references SALES(Sales_id),
FOREIGN KEY (Courier_id) references COURIER(Courier_id)
);

```

REM*****

REM PERSON TABLE

REM*****

```

INSERT INTO PERSON VALUES (1001,'Inayah Bonner','7284 Tower Ave. North
Olmsted','(624) 573-2947','28/05/1979',44070,'Ohio','F');
INSERT INTO PERSON VALUES (1002,'Chantal Pemberton','979 Cedar Drive
Worcester','(374) 227-9213','20/10/1983',01604,'Massachusetts','M');
INSERT INTO PERSON VALUES (1003,'Ayush Pope','921 San Pablo St. North
Attleboro','(858) 580-3495','10/02/1981',02760,'Massachusetts','F');
INSERT INTO PERSON VALUES (1004,'Hilary Cohen','93 Heather Drive
Eules','(508) 546-6509','21/02/1969',76039,'Texas','F');
INSERT INTO PERSON VALUES (1005,'Lam Hao Cheng','7028 North Shub Farm
Street Downers Grove','(970)
540-9274','16/12/1979',60515,'Illinois','F');
INSERT INTO PERSON VALUES (1006,'Sorcha Howells','4 6th St. Newport
News','(816) 738-7548','13/09/1973',23601,'Virginia','F');
INSERT INTO PERSON VALUES (1007,'Rosie Wolfe','83 Sheffield St.
Norcross','(791) 369-5944','10/12/1975',30092,'Georgia','M');
INSERT INTO PERSON VALUES (1008,'Raheel Devlin','79 Bay Meadows Circle
Johnston','(229) 535-9010','12/08/1989',02919,'Rhode Island','F');
INSERT INTO PERSON VALUES (1009,'Yousif Figueroa','70 Ivy Ave.
Pelham','(237) 276-4032','24/06/1992',35124,'Alabama','M');
INSERT INTO PERSON VALUES (1010,'Ophelia Mccarty','216 Peachtree Ave.
Charlottesville','(215) 582-1267','07/10/1990',22901,'Virginia','M');
INSERT INTO PERSON VALUES (1011,'Beauden Montes','40 Valley Farms Street
Yonkers','(288) 854-6940','01/03/1998',10701,'New York','F');
INSERT INTO PERSON VALUES (1012,'Nabila Cassidy','318 Pine Ave.
Monsey','(311) 503-8605','25/10/1997',10952,'New York','M');
INSERT INTO PERSON VALUES (1013,'Lorcan Vance','8405 E. Chapel St.
Cleveland','(598) 291-4668','27/09/1983',37312,'Tennessee','M');
INSERT INTO PERSON VALUES (1014,'Jody Spears','984 Marvon Dr.
Lewiston','(735) 604-2325','05/04/1991',04240,'Maine','M');
INSERT INTO PERSON VALUES (1015,'Choong Kin Tze','46 Beech St.
Desoto','(514) 278-0465','20/06/1951',75115,'Texas','M');
INSERT INTO PERSON VALUES (1016,'Crystal Davila','9761 West Marsh Ave.
Oakland','(854) 579-1334','06/08/1967',94603,'California','F');
INSERT INTO PERSON VALUES (1017,'Karol Kramer','203 East Sierra Drive
West Palm Beach','(792) 255-1129','12/06/2009',33404,'Florida','F');

```



```

INSERT INTO PERSON VALUES (1018,'Masuma Shariff','10 Tanglewood St.
Vincentown','(524) 430-8806','16/12/1988',08088,'New Jersey','M');
INSERT INTO PERSON VALUES (1019,'Jayce Conroy','9259 Mill Lane Soddy
Daisy','(609) 378-3330','21/07/1981',37379,'Tennessee','F');
INSERT INTO PERSON VALUES (1020,'Jill Bates','567 Brickell Drive Park
Ridge','(698) 395-8696','19/04/1943',60068,'Illinois','F');

```

```

REM*****

```

```

REM  BRANCH TABLE

```

```

REM*****

```

```

INSERT INTO BRANCH VALUES ('B111','26 N. Tailwater St. Hammonton,
NJ','retail',08037);
INSERT INTO BRANCH VALUES ('B112','1 East Franklin Lane Sylvania,
OH','retail',43560);
INSERT INTO BRANCH VALUES ('B113','9 Lake View Street Honolulu,
HI','retail',96815);
INSERT INTO BRANCH VALUES ('B114',NULL,'online',NULL);
INSERT INTO BRANCH VALUES ('B115','9473 Lake Forest St. Dubuque,
IA','retail',52001);
INSERT INTO BRANCH VALUES ('B116','18 Smith Street Waukesha,
WI','retail',53186);
INSERT INTO BRANCH VALUES ('B117',NULL,'online',NULL);

```

```

REM*****

```

```

REM  MODEL TABLE

```

```

REM*****

```

```

INSERT INTO MODEL VALUES ('M101','Microsoft 365 Pro+',NULL,NULL,'Office
System',799.99);
INSERT INTO MODEL VALUES ('M102','Microsoft 365
Student',NULL,NULL,'Office System',129.99);
INSERT INTO MODEL VALUES ('M103','Microsoft 365
Enterprise',NULL,NULL,'Office System',1099.99);
INSERT INTO MODEL VALUES ('M104','Microsoft 365
Professional',NULL,NULL,'Office System',599.99);
INSERT INTO MODEL VALUES ('M201','Surface Pro 7',256,8,'Laptop',749.99);
INSERT INTO MODEL VALUES ('M202','Surface Pro
7',512,12,'Laptop',999.99);
INSERT INTO MODEL VALUES ('M211','Surface Go',256,8,'Laptop',549.99);
INSERT INTO MODEL VALUES ('M212','Surface Go 2',512,12,'Laptop',799.99);
INSERT INTO MODEL VALUES ('M221','Surface Book
3',256,8,'Laptop',1599.99);
INSERT INTO MODEL VALUES ('M222','Surface Book
3',512,12,'Laptop',1999.99);
INSERT INTO MODEL VALUES ('M231','Surface Pro X',256,8,'Laptop',799.99);

```

```

INSERT INTO MODEL VALUES ('M232','Surface Pro
X',512,16,'Laptop',999.99);
INSERT INTO MODEL VALUES ('M241','Surface Laptop
4',256,8,'Laptop',999.99);
INSERT INTO MODEL VALUES ('M242','Surface Laptop
4',512,12,'Laptop',1399.99);
INSERT INTO MODEL VALUES ('M251','Surface Duo',256,8,'Laptop',1399.99);
INSERT INTO MODEL VALUES ('M252','Surface Duo',512,16,'Laptop',1999.99);
INSERT INTO MODEL VALUES ('M301','Windows 10 Home
Basic',NULL,NULL,'Operating System',299.99);
INSERT INTO MODEL VALUES ('M302','Windows 10 Pro',NULL,NULL,'Operating
System',399.99);
INSERT INTO MODEL VALUES ('M303','Windows 10
Mobile',NULL,NULL,'Operating System',599.99);
INSERT INTO MODEL VALUES ('M304','Windows 10
Enterprise',NULL,NULL,'Operating System',1099.99);

```

REM*****

REM SUPPLIER TABLE

REM*****

```

INSERT INTO SUPPLIER VALUES ('SU001','202-555-0184','8849 Main St.
Winston Salem, NC',27103);
INSERT INTO SUPPLIER VALUES ('SU002','202-555-0166','488 Branch Dr. New
Brunswick, NJ',08901);
INSERT INTO SUPPLIER VALUES ('SU003','202-555-0111','9876 John Avenue
Springboro, OH',45066);
INSERT INTO SUPPLIER VALUES ('SU004','202-555-0132','8622 W. Manor
Station Street Coraopolis, PA',15108);
INSERT INTO SUPPLIER VALUES ('SU005','202-555-0110','71 Sunbeam Drive
Lewis Center, OH',43035);

```

REM*****

REM COURIER TABLE

REM*****

```

INSERT INTO COURIER VALUES ('CR001','FedEx','(567) 454-4320');
INSERT INTO COURIER VALUES ('CR002','UPS','(803) 383-7885');
INSERT INTO COURIER VALUES ('CR003','GDEX','(423) 227-2720');

```

REM*****

REM STAFF TABLE

REM*****

```

INSERT INTO STAFF VALUES (1051,'Salesperson',1581,'B111');
INSERT INTO STAFF VALUES (1029,'Salesperson',2132,'B116');
INSERT INTO STAFF VALUES (1007,'Salesperson',2564,'B116');
INSERT INTO STAFF VALUES (1057,'Salesperson',3028,'B113');

```

```

INSERT INTO STAFF VALUES (1042,'Salesperson',3462,'B112');
INSERT INTO STAFF VALUES (1054,'Salesperson',3714,'B111');
INSERT INTO STAFF VALUES (1093,'Salesperson',4296,'B115');
INSERT INTO STAFF VALUES (1055,'Salesperson',5586,'B112');
INSERT INTO STAFF VALUES (1006,'Manager',6347,'B115');
INSERT INTO STAFF VALUES (1067,'Manager',6574,'B114');
INSERT INTO STAFF VALUES (1020,'Manager',6611,'B112');
INSERT INTO STAFF VALUES (1032,'Manager',6802,'B111');
INSERT INTO STAFF VALUES (1016,'Manager',7261,'B113');
INSERT INTO STAFF VALUES (1024,'Manager',7704,'B116');
INSERT INTO STAFF VALUES (1071,'Manager',8516,'B117');
INSERT INTO STAFF VALUES (1088,'Salesperson',1253,'B113');
INSERT INTO STAFF VALUES (1076,'Salesperson',1369,'B111');
INSERT INTO STAFF VALUES (1059,'Salesperson',1258,'B111');
INSERT INTO STAFF VALUES (1021,'Salesperson',1588,'B113');
INSERT INTO STAFF VALUES (1066,'Salesperson',2633,'B115');

REM*****
REM  PRODUCT TABLE
REM*****
INSERT INTO PRODUCT VALUES ('P001','M101','Professional');
INSERT INTO PRODUCT VALUES ('P002','M101','Student');
INSERT INTO PRODUCT VALUES ('P003','M101','Enterprise');
INSERT INTO PRODUCT VALUES ('P004','M101','Pro Plus');
INSERT INTO PRODUCT VALUES ('P005','M201','Black');
INSERT INTO PRODUCT VALUES ('P006','M201','Silver');
INSERT INTO PRODUCT VALUES ('P007','M201','Rose Gold');
INSERT INTO PRODUCT VALUES ('P008','M201','White');
INSERT INTO PRODUCT VALUES ('P009','M202','Black');
INSERT INTO PRODUCT VALUES ('P010','M202','Silver');
INSERT INTO PRODUCT VALUES ('P011','M202','Rose Gold');
INSERT INTO PRODUCT VALUES ('P012','M202','White');
INSERT INTO PRODUCT VALUES ('P013','M211','Black');
INSERT INTO PRODUCT VALUES ('P014','M211','Silver');
INSERT INTO PRODUCT VALUES ('P015','M211','Rose Gold');
INSERT INTO PRODUCT VALUES ('P016','M211','White');
INSERT INTO PRODUCT VALUES ('P017','M212','Black');
INSERT INTO PRODUCT VALUES ('P018','M212','Silver');
INSERT INTO PRODUCT VALUES ('P019','M212','Rose Gold');
INSERT INTO PRODUCT VALUES ('P020','M212','White');

REM*****
REM  STOCK TABLE
REM*****
INSERT INTO STOCK VALUES ('N0000001','SU001','14/08/2020','B111');

```

```

INSERT INTO STOCK VALUES ('N0000002','SU001','18/08/2020','B113');
INSERT INTO STOCK VALUES ('N0000003','SU002','02/09/2020','B114');
INSERT INTO STOCK VALUES ('N0000004','SU005','27/10/2020','B112');
INSERT INTO STOCK VALUES ('N0000005','SU001','04/11/2020','B114');
INSERT INTO STOCK VALUES ('N0000006','SU002','04/11/2020','B111');
INSERT INTO STOCK VALUES ('N0000007','SU003','22/12/2020','B115');
INSERT INTO STOCK VALUES ('N0000008','SU003','28/12/2020','B115');
INSERT INTO STOCK VALUES ('N0000009','SU003','29/12/2020','B111');
INSERT INTO STOCK VALUES ('N0000010','SU001','13/01/2021','B113');
INSERT INTO STOCK VALUES ('N0000011','SU004','18/01/2021','B112');
INSERT INTO STOCK VALUES ('N0000012','SU001','21/01/2021','B116');
INSERT INTO STOCK VALUES ('N0000013','SU003','04/02/2021','B111');
INSERT INTO STOCK VALUES ('N0000014','SU003','02/03/2021','B113');
INSERT INTO STOCK VALUES ('N0000015','SU004','15/03/2021','B114');
INSERT INTO STOCK VALUES ('N0000016','SU005','24/03/2021','B117');
INSERT INTO STOCK VALUES ('N0000017','SU005','30/03/2021','B111');
INSERT INTO STOCK VALUES ('N0000018','SU004','08/04/2021','B112');
INSERT INTO STOCK VALUES ('N0000019','SU003','18/05/2021','B117');
INSERT INTO STOCK VALUES ('N0000020','SU004','31/05/2021','B111');

```

REM*****

REM PRODUCT_STOCK TABLE

REM*****

```

INSERT INTO PRODUCT_STOCK VALUES ('P006','N0000001',4);
INSERT INTO PRODUCT_STOCK VALUES ('P013','N0000001',5);
INSERT INTO PRODUCT_STOCK VALUES ('P025','N0000001',19);
INSERT INTO PRODUCT_STOCK VALUES ('P049','N0000001',14);
INSERT INTO PRODUCT_STOCK VALUES ('P051','N0000001',21);
INSERT INTO PRODUCT_STOCK VALUES ('P052','N0000001',48);
INSERT INTO PRODUCT_STOCK VALUES ('P063','N0000001',27);
INSERT INTO PRODUCT_STOCK VALUES ('P002','N0000001',22);
INSERT INTO PRODUCT_STOCK VALUES ('P008','N0000002',47);
INSERT INTO PRODUCT_STOCK VALUES ('P021','N0000002',27);
INSERT INTO PRODUCT_STOCK VALUES ('P040','N0000002',39);
INSERT INTO PRODUCT_STOCK VALUES ('P041','N0000002',40);
INSERT INTO PRODUCT_STOCK VALUES ('P042','N0000002',29);
INSERT INTO PRODUCT_STOCK VALUES ('P044','N0000002',17);
INSERT INTO PRODUCT_STOCK VALUES ('P056','N0000002',48);
INSERT INTO PRODUCT_STOCK VALUES ('P063','N0000002',5);
INSERT INTO PRODUCT_STOCK VALUES ('P066','N0000002',41);
INSERT INTO PRODUCT_STOCK VALUES ('P031','N0000003',21);
INSERT INTO PRODUCT_STOCK VALUES ('P049','N0000003',30);
INSERT INTO PRODUCT_STOCK VALUES ('P052','N0000003',2);

```

REM*****

REM SALES TABLE

REM*****

```
INSERT INTO SALES VALUES ('OR00001','10/08/2020',1029,1069,'Online');
INSERT INTO SALES VALUES ('OR00002','12/08/2020',1057,1043,'Retail');
INSERT INTO SALES VALUES ('OR00003','24/08/2020',1054,1017,'Online');
INSERT INTO SALES VALUES ('OR00004','06/09/2020',1006,1026,'Online');
INSERT INTO SALES VALUES ('OR00005','09/09/2020',1032,1076,'Retail');
INSERT INTO SALES VALUES ('OR00006','09/09/2020',1071,1030,'Retail');
INSERT INTO SALES VALUES ('OR00007','12/09/2020',1029,1068,'Online');
INSERT INTO SALES VALUES ('OR00008','20/09/2020',1007,1064,'Online');
INSERT INTO SALES VALUES ('OR00009','28/09/2020',1057,1048,'Retail');
INSERT INTO SALES VALUES ('OR00010','09/10/2020',1042,1065,'Online');
INSERT INTO SALES VALUES ('OR00011','22/10/2020',1054,1058,'Retail');
INSERT INTO SALES VALUES ('OR00012','23/10/2020',1093,1053,'Online');
INSERT INTO SALES VALUES ('OR00013','08/11/2020',1006,1059,'Retail');
INSERT INTO SALES VALUES ('OR00014','08/11/2020',1020,1048,'Retail');
INSERT INTO SALES VALUES ('OR00015','24/11/2020',1016,1005,'Retail');
INSERT INTO SALES VALUES ('OR00016','24/11/2020',1024,1042,'Retail');
INSERT INTO SALES VALUES ('OR00017','26/11/2020',1051,1039,'Retail');
INSERT INTO SALES VALUES ('OR00018','26/11/2020',1029,1026,'Retail');
INSERT INTO SALES VALUES ('OR00019','27/11/2020',1057,1034,'Online');
INSERT INTO SALES VALUES ('OR00020','28/11/2020',1093,1025,'Online');
```

REM*****

REM SALES_PRODUCT TABLE

REM*****

```
INSERT INTO SALES_PRODUCT VALUES ('OR00001','P003',3);
INSERT INTO SALES_PRODUCT VALUES ('OR00001','P065',5);
INSERT INTO SALES_PRODUCT VALUES ('OR00001','P026',1);
INSERT INTO SALES_PRODUCT VALUES ('OR00001','P001',4);
INSERT INTO SALES_PRODUCT VALUES ('OR00002','P049',3);
INSERT INTO SALES_PRODUCT VALUES ('OR00003','P058',4);
INSERT INTO SALES_PRODUCT VALUES ('OR00003','P063',4);
INSERT INTO SALES_PRODUCT VALUES ('OR00004','P015',3);
INSERT INTO SALES_PRODUCT VALUES ('OR00004','P056',1);
INSERT INTO SALES_PRODUCT VALUES ('OR00004','P071',5);
INSERT INTO SALES_PRODUCT VALUES ('OR00005','P059',1);
INSERT INTO SALES_PRODUCT VALUES ('OR00006','P026',4);
INSERT INTO SALES_PRODUCT VALUES ('OR00006','P001',3);
INSERT INTO SALES_PRODUCT VALUES ('OR00006','P012',2);
INSERT INTO SALES_PRODUCT VALUES ('OR00007','P029',2);
INSERT INTO SALES_PRODUCT VALUES ('OR00007','P007',5);
INSERT INTO SALES_PRODUCT VALUES ('OR00008','P009',4);
INSERT INTO SALES_PRODUCT VALUES ('OR00008','P017',3);
INSERT INTO SALES_PRODUCT VALUES ('OR00008','P047',1);
```

```

INSERT INTO SALES_PRODUCT VALUES ('OR00009','P033',2);

INSERT INTO DELIVERY VALUES
('DD113','OR00004','CR002','RH735282527CN','07/09/2020','10/09/2020',
0811);
INSERT INTO DELIVERY VALUES
('DD114','OR00006','CR003','TL154290913CA','09/09/2020','14/09/2020',
0933);
INSERT INTO DELIVERY VALUES
('DD115','OR00007','CR003','TL709553218CA','13/09/2020','14/09/2020',
1142);
INSERT INTO DELIVERY VALUES
('DD116','OR00008','CR001','RA388161635US','22/09/2020','27/09/2020',
1330);
INSERT INTO DELIVERY VALUES
('DD117','OR00010','CR002','RH256612962CN','10/10/2020','13/10/2020',
1159);
INSERT INTO DELIVERY VALUES
('DD118','OR00012','CR002','RH271579402CN','24/10/2020','29/10/2020',
1106);
INSERT INTO DELIVERY VALUES
('DD119','OR00015','CR001','RA346049326US','24/11/2020','30/11/2020',
0817);
INSERT INTO DELIVERY VALUES
('DD120','OR00019','CR001','RA844548906US','27/11/2020','29/11/2020',
1303);
INSERT INTO DELIVERY VALUES
('DD121','OR00020','CR003','TL864733399CA','01/12/2020','04/12/2020',
1111);
INSERT INTO DELIVERY VALUES
('DD122','OR00022','CR003','TL126368311CA','22/12/2020','24/12/2020',
1533);
INSERT INTO DELIVERY VALUES
('DD123','OR00023','CR002','RH247671548CN','27/12/2020','31/12/2020',
1336);
INSERT INTO DELIVERY VALUES
('DD124','OR00025','CR002','RH242461587CN','03/01/2021','07/01/2021',
1404);
INSERT INTO DELIVERY VALUES
('DD125','OR00026','CR001','RA847433108US','14/01/2021','19/01/2021',
0928);
INSERT INTO DELIVERY VALUES
('DD126','OR00028','CR003','TL261028294CA','16/01/2021','29/01/2021',
1407);

```

```

INSERT INTO DELIVERY VALUES
('DD127','OR00029','CR001','RA642610185US','29/01/2021','31/01/2021',
1344);
INSERT INTO DELIVERY VALUES
('DD128','OR00031','CR003','TL813043179CA','09/02/2021','13/02/2021',
1513);
INSERT INTO DELIVERY VALUES
('DD129','OR00032','CR003','TL675968925CA','23/02/2021','28/02/2021',
1557);
INSERT INTO DELIVERY VALUES
('DD130','OR00033','CR001','RA739086620US','23/02/2021','01/03/2021',
1618);
INSERT INTO DELIVERY VALUES
('DD131','OR00034','CR002','RH507462023CN','15/03/2021','21/03/2021',
1414);
INSERT INTO DELIVERY VALUES
('DD132','OR00036','CR001','RA594993301US','24/03/2021','27/03/2021',
1359);

```

```

UPDATE PERSON
SET Address = '2170 Stonepot Road', Postcode = 07662, City = 'New
Jersey'
WHERE NAME = 'Mahometus Bademus';

```

```

UPDATE STAFF
SET Position = 'Manager', Salary = 6980, Branch_id = 'B111'
Where Staff_id = 1055;

```

Part 4:

User Queries:

i)

One of our workers, Mahometus Bademus from Kentucky, wanted to move to New Jersey with his family. Instead of resigning, he found out that there is an empty position in the New Jersey branch. that person requested to be transferred to a different workstation in the state.. Afterwards, he received a promotion to become the manager of the new workstation. This means he gets a pay raise, and then. So update his information and show that he has been updated to manager and show his new salary and City.

↶ ↷ 🔍 📌 A:

1 UPDATE PERSON
2 SET Address = '2170 Stonepot Road', Postcode = 07662, City = 'New Jersey'
3 WHERE NAME = 'Mahometus Bademus';
4

Results Explain Describe Saved SQL History

1 row(s) updated.

0.04 seconds

↶ ↷ 🔍 📌 A:

1 UPDATE STAFF
2 SET Position = 'Manager', Salary = 6980, Branch_id = 'B111'
3 Where Staff_id = 1055;
4

Results Explain Describe Saved SQL History

1 row(s) updated.

APEX

App Builder

SQL Workshop

Team Development

Gallery

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MS Masuma Shariff masu

SQL Commands

Schema WKSP_MASU

Language SQL

Rows 10

Clear Command

Find Tables

Save

Run

↶ ↷ 🔍 📌 A:

1 Select P.Person_id, P.Name, P.Address, P.city, S.Branch_ID, S.Position, S.Salary
2 From person P, Staff S
3 Where P.Name = 'Mahometus Bademus'
4 And S.Staff_ID = P.Person_ID;

Results Explain Describe Saved SQL History

PERSON_ID	NAME	ADDRESS	CITY	BRANCH_ID	POSITION	SALARY
1055	Mahometus Bademus	74 Amherst Road Bowling Green, KY	Kentucky	B112	Salesperson	5586

1 rows returned in 0.03 seconds
Download

ii)

A headmaster comes to the business in hope of buying 100 laptops for his school's teachers to continue their online classes at home. He wants to register under the name Boris Johnson with his address written on the request paper. Let him know what the total price of his purchase will be

APEX

App Builder

SQL Workshop

Team Development

Gallery

HL

Hao Cheng Lam

lhc

SQL Commands

Schema

WKSP_LHC

Language

SQL

Rows

100

Clear Command

Find Tables

Save

Run

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1

insert into person values (1181,'Boris Johnson', '16 N. Academy Dr. Wadsworth', '(970) 895-1272', '26-JUL-1963', 44281, 'Ohio', 'M');

APEX

App Builder

SQL Workshop

Team Development

Gallery

HL

Hao Cheng Lam

lhc

SQL Commands

Schema

WKSP_LHC

Language

SQL

Rows

100

Clear Command

Find Tables

Save

Run

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1

insert into sales_product values ('0R00051', 'P018', 25);

APEX

App Builder

SQL Workshop

Team Development

Gallery

HL

Hao Cheng Lam

lhc

SQL Commands

Schema

WKSP_LHC

Language

SQL

Rows

100

Clear Command

Find Tables

Save

Run

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1

insert into sales_product values ('0R00051', 'P020', 25);

APEX

App Builder

SQL Workshop

Team Development

Gallery

HL

Hao Cheng Lam

lhc

SQL Commands

Schema

WKSP_LHC

Language

SQL

Rows

100

Clear Command

Find Tables

Save

Run

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1

insert into sales_product values ('0R00051', 'P018', 25);

34

APEX App Builder SQL Workshop Team Development Gallery

Schema: WKSP_LHC

Language: SQL Rows: 100 Clear Command Find Tables Save Run

```

1 select sales.cust_id as "Customer ID",
2    person.name as "Customer Name",
3    sales.staff_id as "Staff in Charge",
4    sum(sales_product.quantity) as "Total Quantity",
5    sum(Model_Price*sales_product.quantity) as "Total Price"
6 from sales, sales_product, model, person, product
7 where sales.cust_id = person.person_id
8    and sales.sales_id = sales_product.sales_id
9    and product.product_id = sales_product.product_id
10   and product.model_no = model.model_no
11   and person.name = 'Boris Johnson'
12   and sales.staff_id = 1055
13 group by sales.cust_id, person.name, sales.staff_id

```

Results Explain Describe Saved SQL History

Customer ID	Customer Name	Staff in Charge	Total Quantity	Total Price
1101	Boris Johnson	1055	100	79999

1 rows returned in 0.05 seconds Download

iii)

Due to an increase in sales and need for technology products at Microsoft Corporation, they decided to provide a complimentary gift to anyone that makes retail store purchases. The only condition to it is that the gift is only to be given to customer(s) that reside in the state of Illinois.

APEX App Builder SQL Workshop Team Development Gallery

Schema: WKSP_LHC

Language: SQL Rows: 200 Clear Command Find Tables Save Run

```

1 select person.person_id as "Person ID",
2    person.name as "Name",
3    person.phone_num as "Phone Number",
4    sales.sales_id as "Sales ID"
5 from person
6 full outer join sales
7 on person.person_id = sales.cust_id
8 where person.city like 'I%'
9    and (sales.sales_id is not null
10    and sales.mode_sales = 'Retail')

```

Results Explain Describe Saved SQL History

Person ID	Name	Phone Number	Sales ID
1058	Jamshid Mehetabel	(393) 970-0616	OR00011
1005	Lam Hao Cheng	(970) 540-9274	OR00015

2 rows returned in 0.01 seconds Download

iv)

After request from the higher-ups, Microsoft Corporation is required to show the amount of deliveries that they have made since 2020 in order to keep track of the past records and the locations of their customers. Thus, the customers' locations are also needed. All the data are required to be included. It is also required that the data be arranged in descending order in order to be grouped according to state in order to note the amount of people from each state. List the price of each delivery done.

APEX App Builder SQL Workshop Team Development Gallery					
SQL Commands					
Language SQL Rows 100 Clear Command Find Tables					
<pre>1 select delivery.delivery_id as "Delivery ID", 2 delivery.arrival_date as "Date Arrived", 3 sales.cust_id as "Customer ID", sum(Price_per_delivery * Model_Pricesales_product.quantity) as "Total Price", 4 person.name as "Customer Name", address ', ' postcode ', ' city as "Customer Address" 5 from delivery, sales, person, sales_product, model, product, courier 6 where delivery.arrival_date between '01-JAN-21' and '31-MAY-21' 7 and sales.cust_id = person.person_id 8 and delivery.sales_id = sales.sales_id 9 and sales.sales_id = sales_product.sales_id 10 and sales_product.product_id = product.product_id 11 and product.model_no = model.model_no 12 and delivery.courier_id = courier.courier_id 13 group by delivery_id, cust_id, person.name, address ', ' postcode ', ' city, delivery.arrival_date 14 order by delivery_id;</pre>					
Results Explain Describe Saved SQL History					
Delivery ID	Date Arrived	Customer ID	Total Price	Customer Name	Customer Address
DD124	07-JAN-21	1045	402796	Atlanta Lamb	938 Main Dr. Tewksbury, 1876, Massachusetts
DD125	19-JAN-21	1063	254995	Katashi Muscowequan	128 Main St. Faribault, MN, 55021, Minnesota
DD126	29-JAN-21	1029	100599	Ishaan Shields	8183 Sheffield St. Plainview, 11803, New York
DD127	31-JAN-21	1022	774.99	Gracey McNally	1 Ohio St. Flint, 48504, Michigan
DD128	13-FEB-21	1045	940991	Atlanta Lamb	938 Main Dr. Tewksbury, 1876, Massachusetts
DD129	28-FEB-21	1046	16089.88	Alvin Hammond	256 NE. Pilgrim Ave. Roslindale, 2131, Massachusetts
DD130	01-MAR-21	1044	6374.92	Diego Mckeown	9029 Pumpkin Hill St. Newington, 6111, Connecticut
DD131	21-MAR-21	1066	52799	Jaylin Zoe	208 Country Club Street Bay Shore, NY, 2138, New York
DD132	27-MAR-21	1001	3224.98	Inayah Bonner	7284 Tower Ave. North Olmsted, 44070, Ohio
DD133	04-APR-21	1070	24311.89	Kalin Mattaniah	3 South Cactus Court West Warwick, RI, 2893, Rhode Island
DD134	10-APR-21	1059	4674.92	Benedict Agnete	458 Sulphur Springs Street Cartersville, GA, 30120, Georgia
DD135	09-APR-21	1015	162798	Choong Kin Tze	46 Beech St. Desoto, 75115, Texas
DD136	03-MAY-21	1055	702995	Mahometus Bademus	2170 Stonepot Road, 7662, New Jersey
DD137	12-MAY-21	1035	562796	Kwan Jia Chi	95 Old Santa Clara St. Saint Charles, 60174, Illinois