The Entity Relationship (ER) diagram for a Mobile phone Purches and Billing Management System that maintains details of customers.

Aim: To design an Entity Relationship (ER) diagram for a Mobile phone Purches and Billing Managment. System that maintain details of custromers, mobiles, biling, and logic credentials · for· administrative purpose
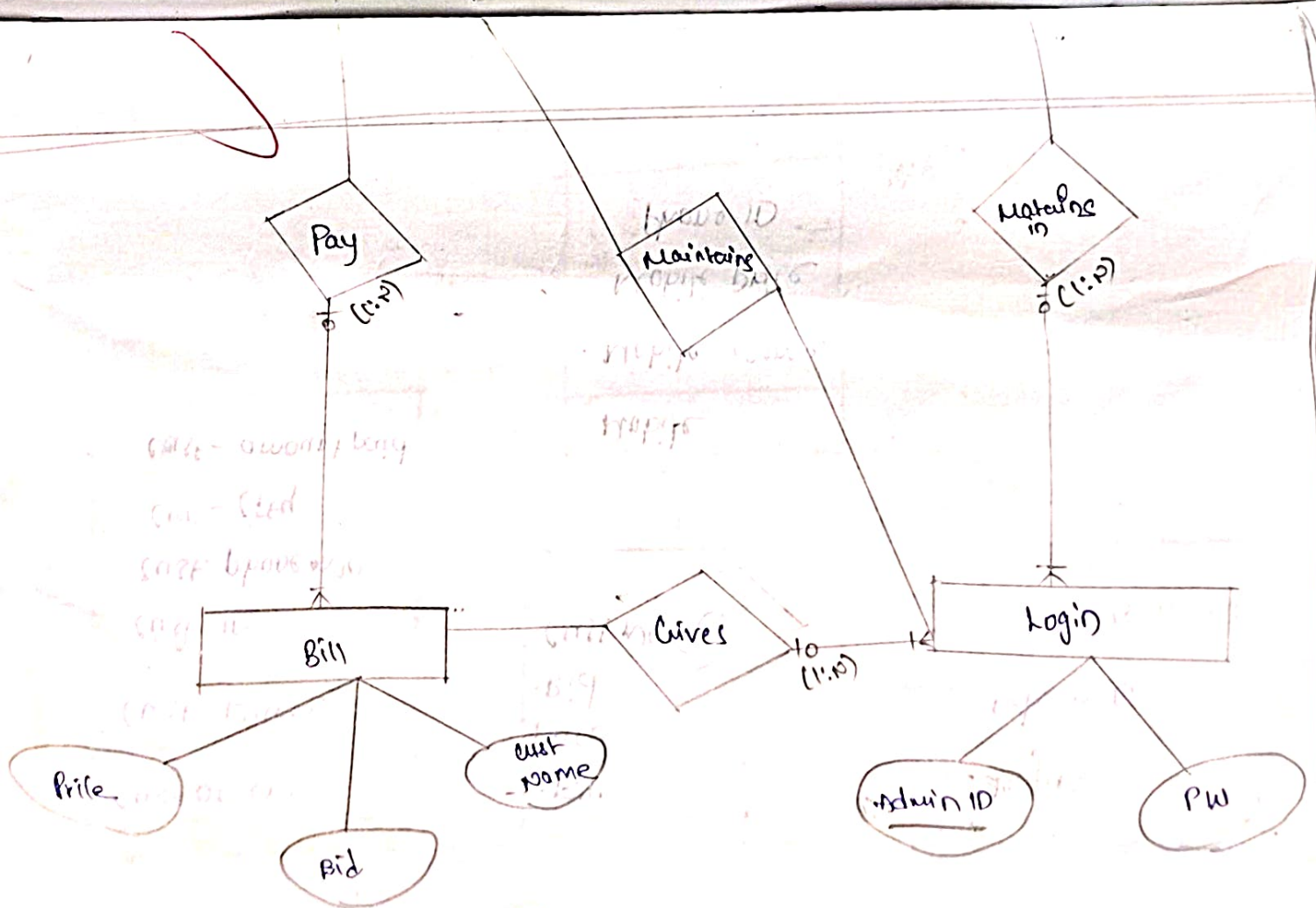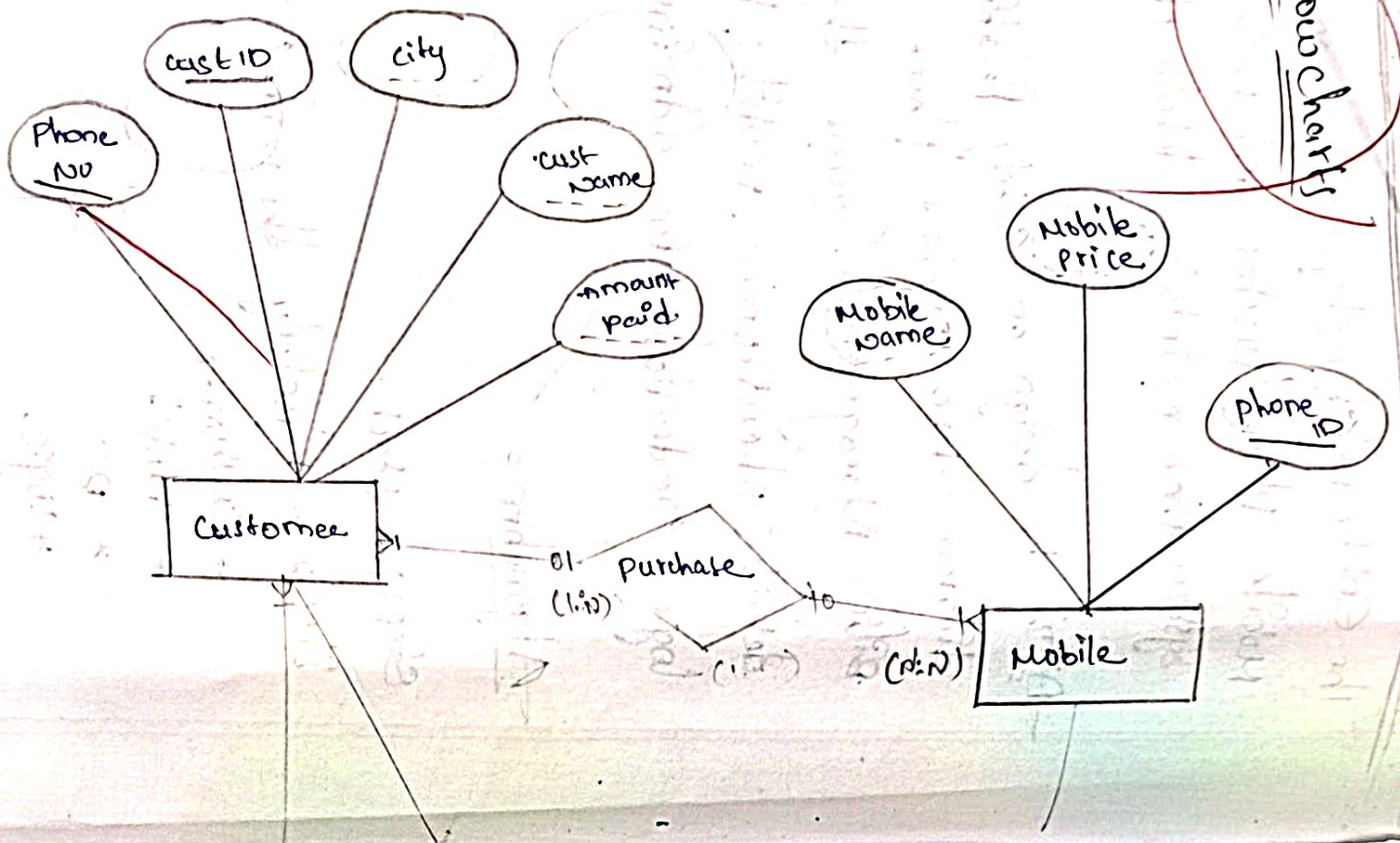
Algorithm:

Step1:- Start.

Step2:- Identify the main Entities
- Customer
- Mobile
- Bill
- Logic

Step3: Identify the Attributes for each Entity.

Diagram for Mobile phone Purchase

Flow charts

cust ID
city
Phone No
cust Name
Amount paid

Customer

01 Purchase to
(1:n) (d:n)

Mobile

Mobile Price
Mobile name
phone ID

Pay
(1:1)

Maintains

Maintains in
(1:1)

Bill

Gives
to
(1:1)

Login

Price
cust name
Bid

Admin ID
PW

* Customer:- Cust ID, Cust Name, City, Phone NO, Amount Paid

* Mobile:- Phone ID, Mobile Name, Mobile Price.

* Bill:- Bid, Cust Name, Price,

* Login:- Admin ID, Password (PWD)

Step 4:- Identify Relationships Between Entities

➢ Customer — Purchase — Mobile: A Customer can Purchase one or more mobiles

* Customer - Pay + Bill:- A Customer pays and receives a bill.

* Bill — Gives — Login: A bill is given by a login/admin account.

* Login — Maintains — Customer / Mobile:- Admin maintain customer and mobile data.

Step 5:- Determine Cardinality.

* Customer to Mobile: Many -to-Many (via Purchase)

* Customer to Bill: one-to-one Or one-to-Many.

* Login to Bill:- One-to-Many

* Login to Mobile / Customer:- one-to-Many

Step 6:- Draw the ER Diagram.

* Rectangle: Entities
* ellip(e) Attributes
* Diamonds:- Relationship
* Lines:- connections
* Symbols.(1,1,0)= Cardinalities (eg:- one, many, optional)

VEL TECH	
EX NO.	5
PERFORMANCE (5)	3
RESULT AND ANALYSIS (5)	
VIVA VOCE (5)	2
RECORD (5)	
TOTAL (20)	12
SIGN WITH DATE	

Result:- Thus, the to design an entity Relationship diagram for a mobile phone purchase and Billing management is Successfully verified.

Convert. ER Diagram into Relationship
Model.

Aim:- To convert. an ER Diagram into.
a Relationship Model for a
Mobile phone purches . database
Management. System.

Steps for converting the ER diagram
to the table.

* Entity type becomes a table

* All single-Valued attribute becomes
a column for the table

* A key attribute of the entity type
represented by the primary key.

* The multivalued attributed is represented
by a separate table

* composite attribute represented by
Components.

Primary key (PK) → Primary keys

→ Primary key (PK)
→ foreign key (PK)

Logic

Admin ID

Password

Bill

Price

Bid

Cust - name

Customer

Cust - Name

Cust - ID

Cust - Phone-No

Cust - City

Cust - amount paid

Mobile

Mobile - Name

Mobile Price

Phone ID

→ Primary key (PK)

→ foreign key (FK)

Primary key (PK)

* Derived these rules, you can convert the ER diagram to tables and columns and assign the mapping between the tables. Table structure for the given ER diagram is as below:

Result:-

Thus, the conversion of an ER Diagram into in Relationship Model for a Mobile phone purchase data base Management system was drawn successfully.