1) Construct E-R diagram for a hospital with a set of patients and a set of doctors. Associate each patient a log of various tests and examinations conducted. ①

Date: 29/07/2025

Task-1:1

ER Diagram for a mobile phone purchase and Billing management system that maintains details of customers.

Aim: To design and Entity Relationship (ER) diagram for a mobile phone purchase and billing management system that maintains details of customers, mobiles, purchases, billing and login credentials for administrative purpose.

Algorithm:

step 1 : start

step 2 : Identify the main Entities

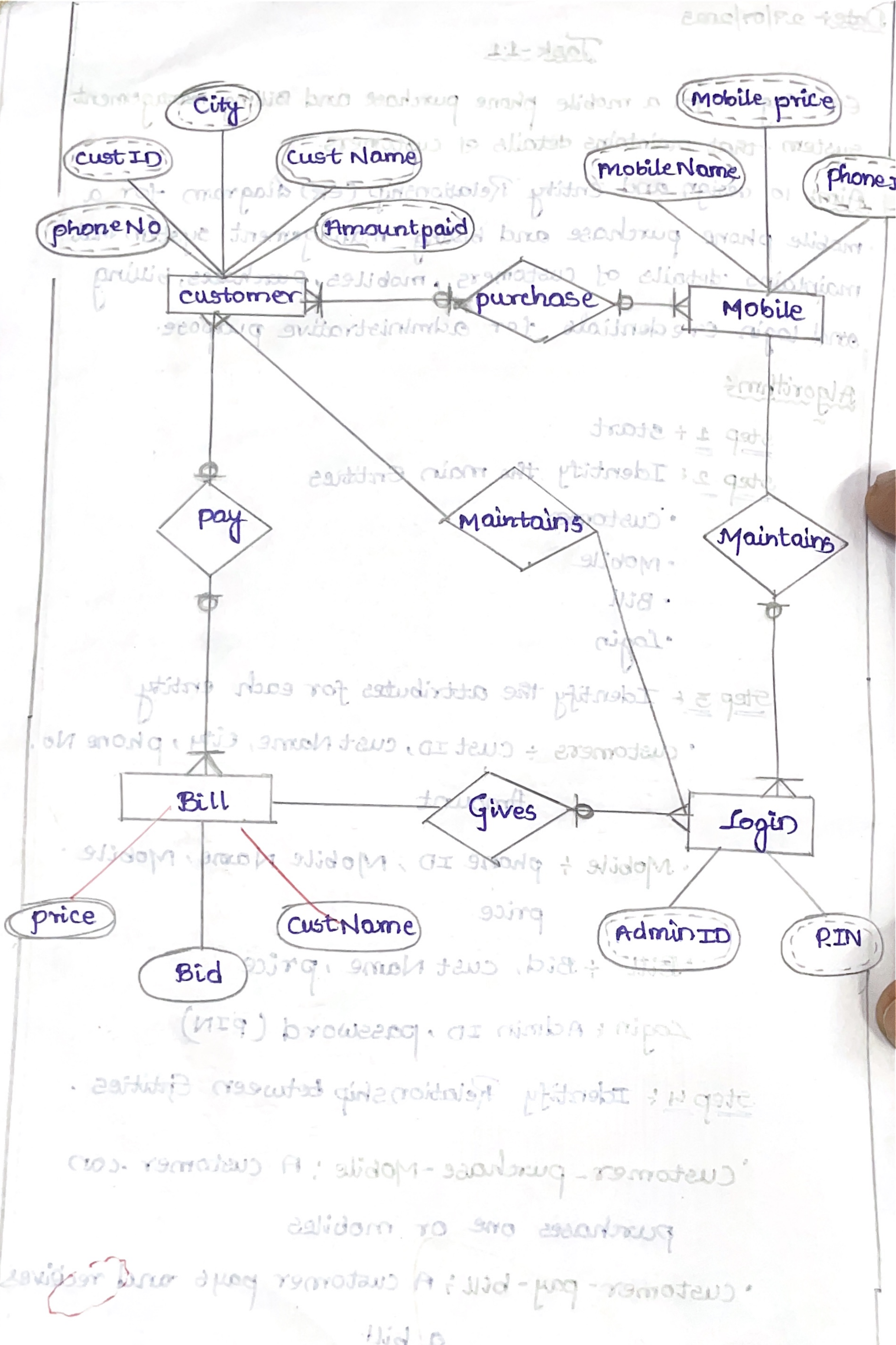
- Customer
- Mobile
- Bill
- Login

Step 3 : Identify the attributes for each entity

- Customers : Cust ID, cust Name, City, phone No, Amount
- Mobile : phone ID, Mobile Name, Mobile price.
- Bill : Bid, cust Name, price
- Login : Admin ID, password (PIN)

Step 4 : Identify Relationship between Entities.

- Customer - purchase - Mobile : A customer can purchases one or 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 maintains customer and mobile data


City
CustID
Cust Name
phoneNO
Amountpaid
customer
purchase
Mobile price
MobileName
Mobile
pay
Maintains
Maintains
Bill
Gives
Login
price
Bid
CustName
AdminID
PIN

1) Construct E-R diagram for a hospital with a set of patients and a set of doctors. Associate each patient a log of various tests and examinations conducted. ①

Step-5 :- Determine cardinality.

- customer to mobile :- Many-to-many
- 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

Rectangles = Entities

Ellipses = Attributes

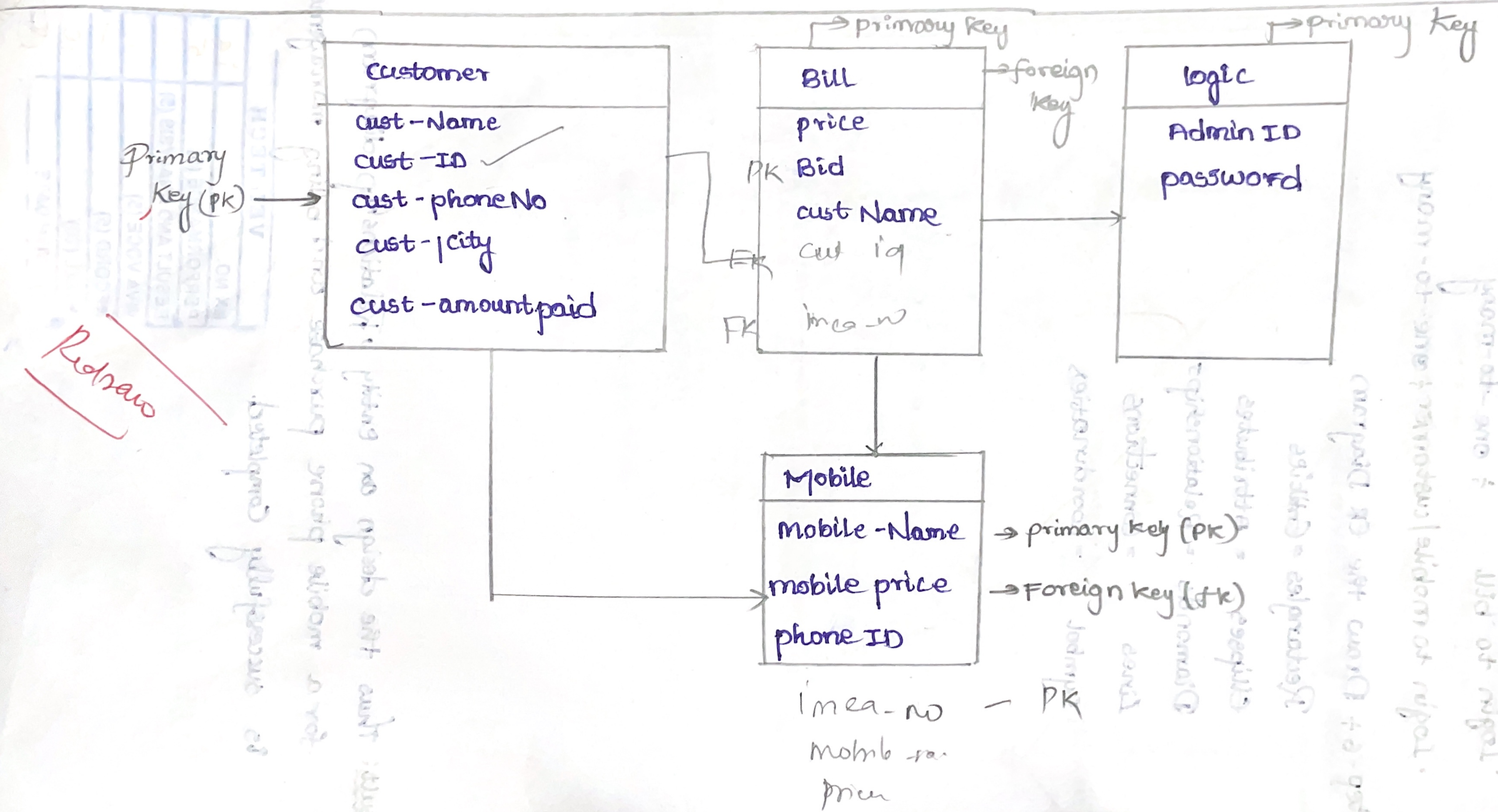
Diamonds = Relationships

Lines = Connections

Symbol = Coordinaties

Result: Thus the design an entity, Relationship diagram for a mobile phone purchase and billing management is successfully Completed.

VEL TECH	
EX NO.	1a
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	0
RECORD (5)	—
TOTAL (20)	10
WITH DATE	19/8


Primary Key
Customer
cust-Name
cust-ID
cust-phoneNo
cust-city
cust-amountpaid
Primary Key (PK)
Bill
price
PK Bid
cust Name
FK cust id
FK imei-no
Primary Key
foreign Key
logic
Admin ID
password
Mobile
Mobile-Name
mobile price
phone ID
→ primary key (PK)
→ Foreign key (fk)
imei-no – PK
mobile name
price

Date: 29/07/2025.

Task 2 : Convert ER diagram into Relationship Model.

Aim: To convert an ER diagram into a Relationship model for a mobile phone purchase database management system.

Steps for converting the ER Diagram to table.

* Entity type becomes a table
* All sigle 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 seperate table
* Composite attribute represented by Components.
* Derived these rules, you can convert the ER diagram to tables and Columns and assign the mapping.

Result: Thus, the Conversion of an ER Diagram into in Relationship model for a mobile phone purchase database management system was drawn succesfully

VEL TECH	
EX NO.	1b
PERFORMANCE (5)	5
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VIVA VOCE (5)	0
RECORD (5)	-
TOTAL (20)	10
SIGN WITH DATE	19/8