

Date :- 29/7/25

Task :- 1.1

ER diagram for a mobile phone purchases and billing management system that maintains details of customers.

Aim:- To design an 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 administration purpose.

Algorithm:-

Step 1:- Start

Step 2:- Identify the main entities

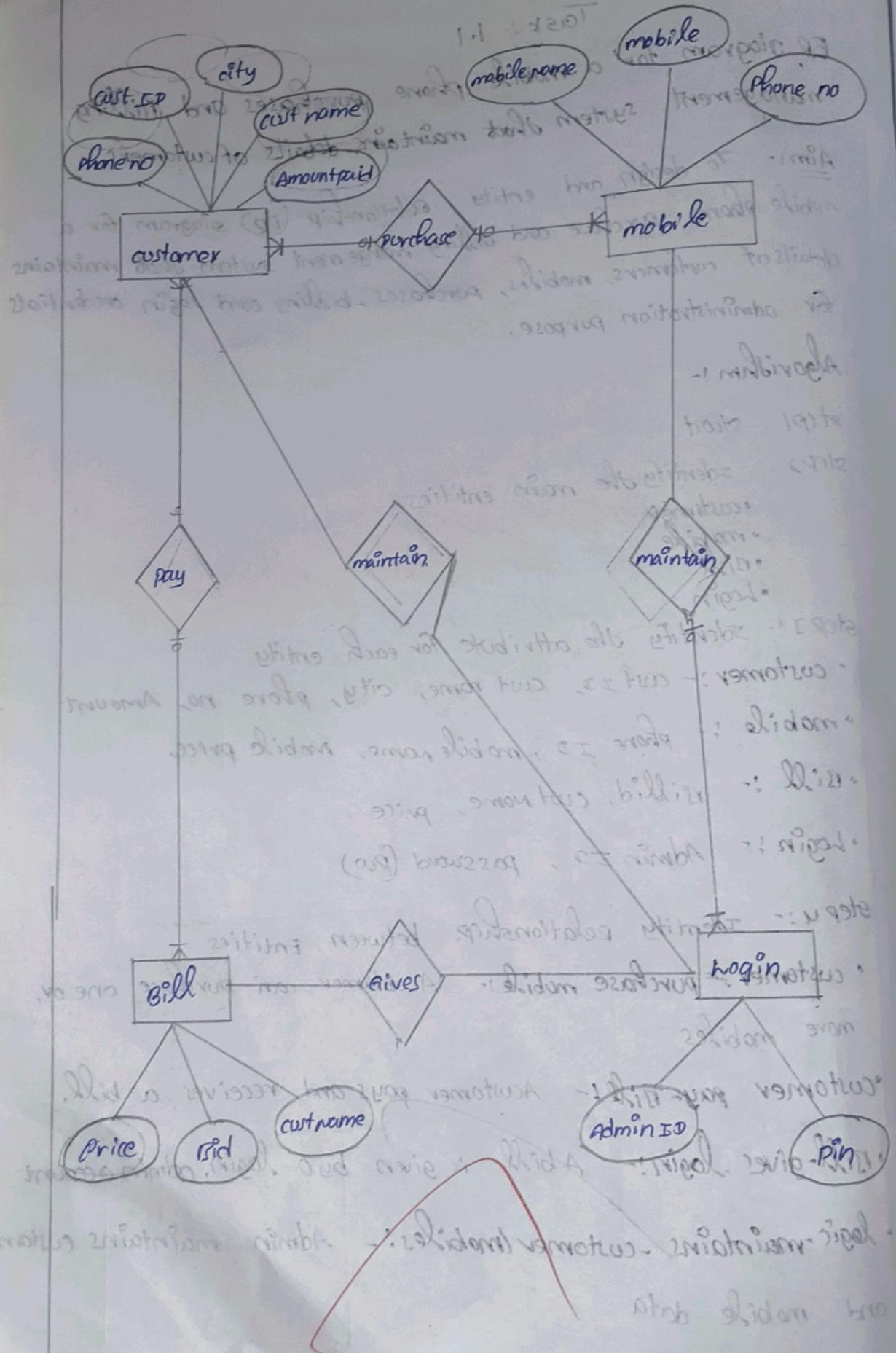
- customer
- mobile
- bill
- login

Step 3:- Identify the attribute for each entity

- customer :- cust ID, cust name, city, phone no, Amount.
- mobile :- phone ID, mobile name, mobile price,
- Bill :- bill ID, cust name, price
- Login :- Admin ID, password (pw)

Step 4:- Identity 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-giver-login:- A bill is given by a login, admin account.
- logic-maintains -customer/mobiles:- Admin maintains customer and mobile data



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.

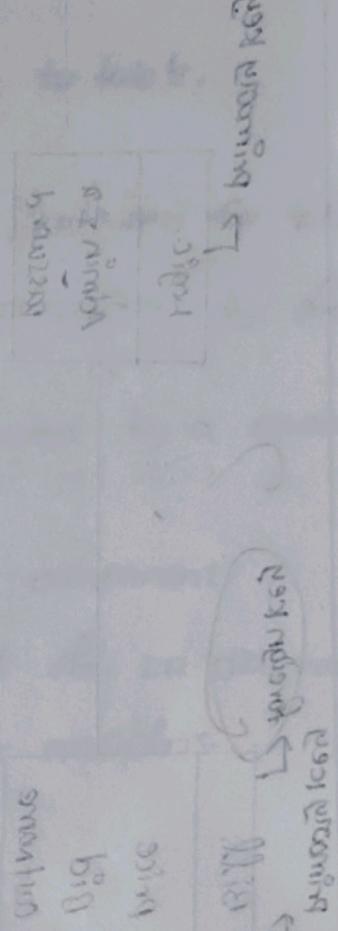
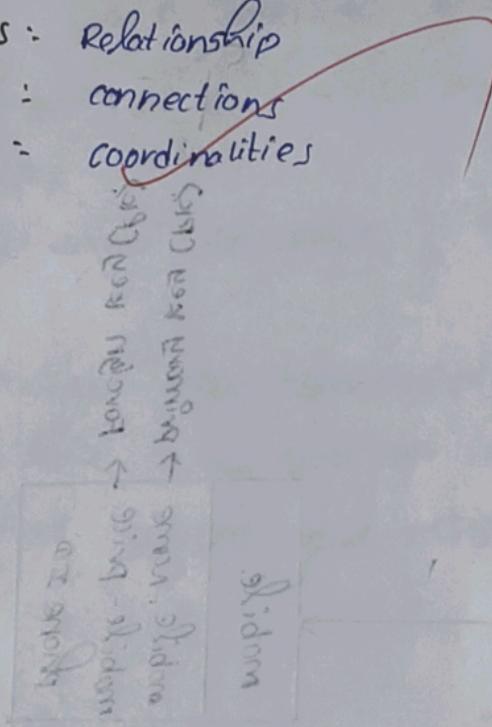
Rectangles = Entities

Ellipses = Attributes

Diamonds = Relationship

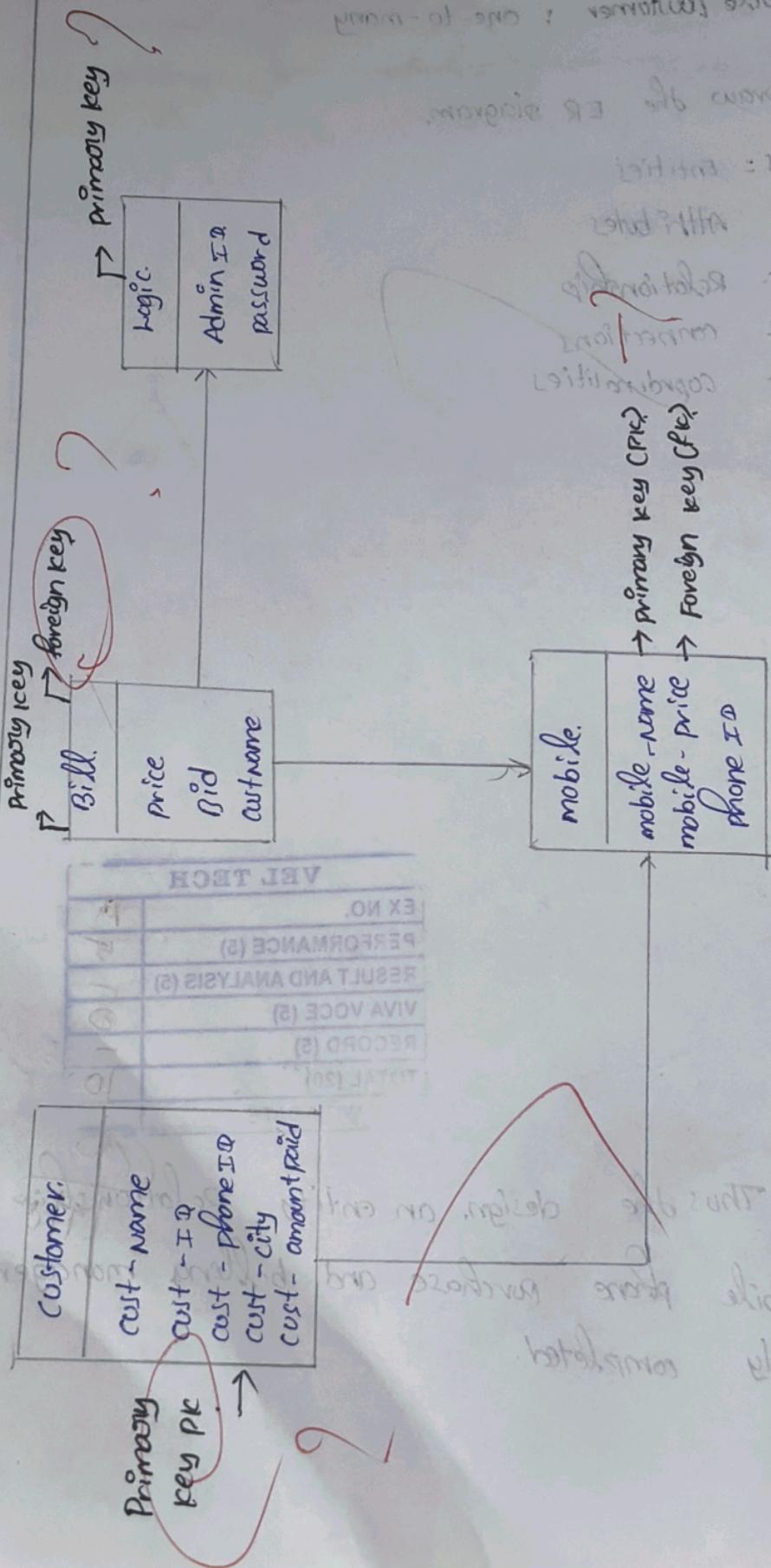
Lines = connections

Symbol = cardinalities



VEL TECH	
EX NO.	10
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	0
RECORD (5)	1
TOTAL (20)	10
SIGN WITH DATE	10

Result:- Thus the design an entity relationship diagram for a mobile phone purchase and billing management is successfully completed.



Date 29/7/25

Task 1.2:- 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 single valued attribute becomes a column for table.
- Key Attribute of the entity type represented by the primary key.
- The multivalued Attribute is represented by a separate table.
- composite these rules represented by components
- derived these rules, you can convert the ER diagram to tables and columns and assign the mappings

Table created

VEL TECH	
EX NO.	1b
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	0
RECORD (5)	-
TOTAL (20)	10
SIGN WITH DATE	19/7/25

Result:- Thus the conversion of ER diagram into a relationship model for a mobile phone purchase database management system was drawn successfully.