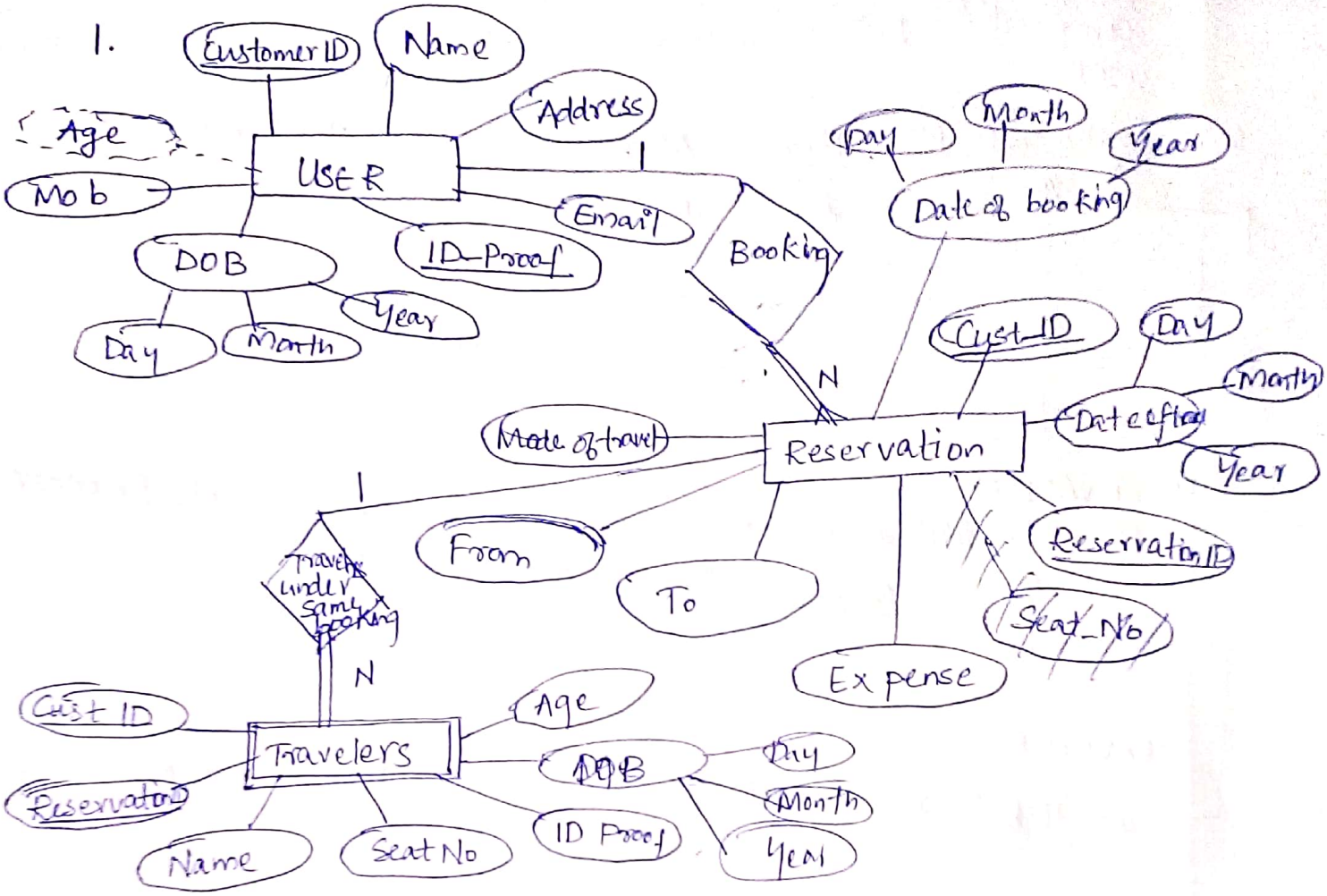
11 June 2020

KONSIK NANDAGOPAN D
CSE S4 ROLLNO 31

DBMS
SERIES 1

1.



Entities → USER, Reservation, Travelers [Weak Entity]

Different types of attribute

~~Key attributes~~

User Entity

Key attributes → Customer ID, ID_Proof

Composite attributes → Date

Derived attributes → Age

Single valued → Name, Address, Email, Mob

Reservation

Key Attribute → cust_ID, Reservation ID

Composite Attr → Date of booking, Date of travel

Single valued → Expense, From, To, Mode of travel

Travelrs
Key ~~Attributes~~ (Partial key) =
Cust_ID, Reservation_ID ~~Name ID Proof Seat No~~

Single valued → Name, Seat No, ID proof

Derived → Age
Composite → DOB

USER

2. Customer ID (PK). Name Address Email DOB ID_Proof (SK).
Age Mob

RESERVATION
Reservation ID (PK) Cust ID (FK) Date of Booking Date of travel, Expense
From To Mode_of_travel

TRAVELERS
Cust_ID (FK) Reservation ID (FK) Name ID Proof Seat No Age

3. SELECT

(i) Select a reservation done by user with name Kowsik

~~DATA~~

USERID ← σ name = "Kowsik" (USER)

R

3. SELECT

(i) Select reservation done on airlines on particular date say 11/06/2020

RESERVATION_DATA ← $\sigma_{mode\_of\_travel = "Airlines",\ date\_of\_travel = 11/06/2020}$ (RESERVATION)

(ii) Select travelers who ~~travelled on~~ 11/06/2020 ~~above~~ are senior citizens (Age above 60)

SENIOR_CITIZENS ← $\sigma_{age > 60}$ (TRAVELERS)

PROJECT

(i) Select the customer ID ~~ID~~ of all users who's name ~~starts with~~ is Ajay

USERID_AJAY ← $\Pi_{(customer\_ID)}$ ($\sigma_{name = "Ajay"}$ (USER))

(ii) Select all reservation done by "Ajay James" on airlines and project reservation ID

USER DATA ← $\Pi_{(customer\_ID)}$ ($\sigma_{name = 'Ajay\ James'}$ (USER))

RESERVE DATA ← $\Pi_{(reservation\ ID)}$ ($\sigma_{custid = USERDATA}$ (RESERVATION))

JOIN

(i) Select all travelers who comes under reservation ID 00112 and display from, to, date of travel.

RESERVE DATA ← $\sigma_{reservation\ id = 00112}$ (RESERVATION) → Natural Join

TRAVELERSDATA ← $\Pi_{(from,\ to,\ date\_of\ travel)}$ (Reservation * Travelers)

(ii) ~~Select~~

Select the tuples ~~having~~ that was traveled on 11/06/2020 and display the users who booked ~~on~~ for that day.

RESERVATION DATA $\leftarrow \Pi_{(cust\_ID)} (\sigma_{date\ of\ travel = 11/06/2020} (RESERVATION))$

~~RENAMED~~

USERDATA $\leftarrow$ USERS $\bowtie_{customer\_ID = cust\_ID}$ RESERVATION DATA