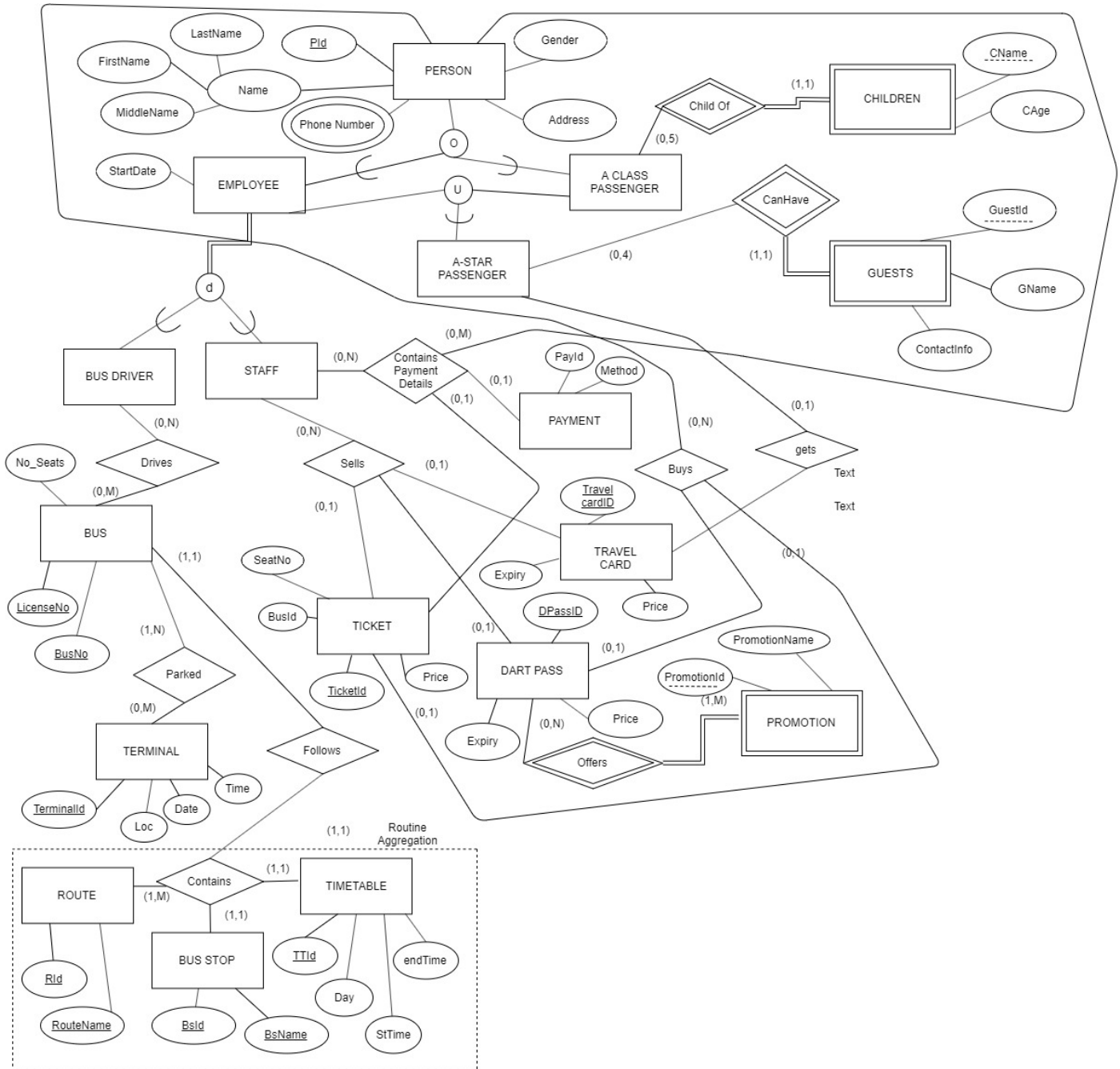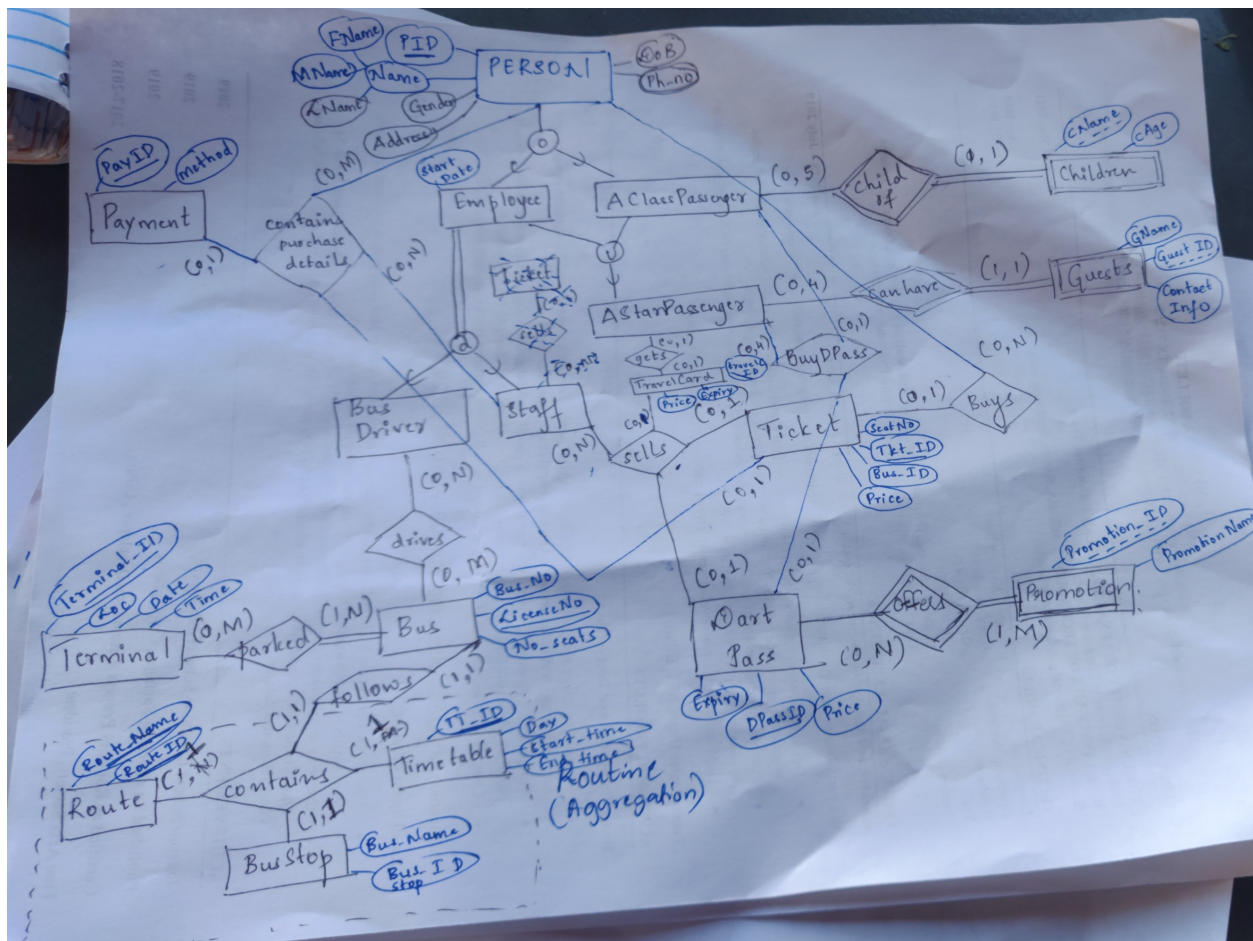# DATABASE DESIGN PROJECT-PHASE1

CONCEPTUAL DESIGN OF DART – Represented using Extended Entity Relationship Model(EER)

Assumptions:

1.ChildOf:
Every ACP need not have children.
Every child belongs to one ACP

2.CanHave Guests:
Every ASP need no gave guests
Every guest belongs to one ASP

3.Drives:
Every bus driver need not drive(spare drivers)
Every bus need not be driven(spare buses)

4.Parked:
A bus has multiple terminals to park
Terminal can have 0 or multiple buses

5.Contains:
  Route: Each route must be in a Time Table

Each route must have a bus stop
Every route has multiple stops
Every route has multiple records in Time Table
Bus Stop: Every bus stop is in one route
Every bus stop has a record in Time Table

6.Follows:
Every bus must follow Routine
Every Routine must be part of one bus

7.Sells:
Ticket: Every ticket is sold by one staff
Zero or Multiple tickets are sold by staff

Travel Card: Zero or multiple cards are sold by staff
Every travel card is sold by one staff
Dart Pass: Staff sells zero or multiple Dart passes
Every dart pass is sold by one staff

8.Promotion:
A dart pass can have one or more promotional offers.

9.Gets (travel card):
Every A-star passenger need not have travel card
Every A-star passenger gets one travel card
Every card not be issued some might be issued later
One issued card belongs to one A-star passenger

10.Contains Payment Details:
Payment: There might not be a payment without a purchase
Every payment must be related to one person, one ticket, one staff.
Person: A person can make zero or multiple payments
No purchase – no payment
Multiple purchase – multiple payments
Staff: No purchases no staff receives payment
Multiple purchases can be handled by multiple staff
Ticket: If there is a purchase of ticket then that has one and only payment associated with it.

11.Person:
Every person is not a A-Class passenger or A-star passenger or Employee of DART. Hence no total participation.

12.Children:
Every child is dependent on A-class passenger to travel in DART
Without A-class Passenger children can't travel in DART, so it is weak entity

13.Guests:

Every guest is dependent on A-star passenger .Hence it is a weak entity.