PROJECT PHASE– 3

a.Normalize all of your tables to third normal form.

BCNF DEFINITION: A relation schema R is in BCNF if for every FD X→ Y associated with R either
– Y ⊆ X (i.e., the FD is trivial) or
– X is a superkey of R

PERSON

Pid	FirstName	LastName	MiddleName	Address	Gender	DATEOFBIRTH

FD1- Pid ⟶ FirstName,LastName, MiddleName, Address, Gender,DATEOFBIRTH.

EMPLOYEE

EPid	StartDate

FD2- EPid ⟶ StartDate

ACLASSPASSENGER

Apid

FD3- Apid ⟶ Apid

ASTARPASSENGER

ASEpid	ASApid	MembershipDate

FD4- ASEpid ,ASApid ⟶ MembershipDate

CHILDREN

CApid	CName	CAge

FD5- CApid ,CName ⟶ CAge

GUEST

GASEpid	GASAPid	GuestId	GName	ContactInfo

FD6- GASEpid ,GASAPid, GuestId ⟶ GName, ContactInfo

BUSDRIVER

BEPid

FD7- BEPid ⟶ BEPid

STAFF

SEPid

FD8- SEPid ⟶ SEPid

BUS

BusNo	No_Seats	**LicenseNo**

FD9- LicenseNo ⟶ BusNo ,No_Seats

TERMINAL

TerminalId	Loc	Date	Time

FD10- TerminalId ⟶ Loc, Date, Time

DRIVES

DBEPid	Date	Hours	**DLicenseNo**

FD11- DBEPid ,DLicenseNo ⟶ Date, Hours

PARKED

PTerminalId	**PLicenseNo**

FD12- PTerminalId ⟶ PLicenseNoPTerminalId, PLicenseNo

TICKET

TPid	**TicketId**	BusId	SeatNo	Price	TSEPid	DateofTravel

FD13- Ticketid ⟶ TPid, BusId, SeatNo, Price, TSEPid,DateofTravel

DARTPASS

DPassID	Expiry	Price	DPSEPid	DPPid

FD14- DPassID ⟶ Expiry, Price, DPSEPid, DPPid

PAYMENT

PayId	Method	StaffId	PPid

FD14- PayId ⟶ Method, StaffId, PPid

TRAVELCARD

TravelCardID	Expiry	Price	StaffId	TCASAPid	TCASEPid	TravelCount	IssueDate

FD15- TravelCardID ⟶ Expiry, Price, StaffId, TCASAPid, TCASEPid, TravelCount, IssueDate

PROMOTIONS

PDPassID	PromotionId	PromotionName

FD16- PDPassID ⟶ PromotionIdPromotionName

ROUTE

Rid	RouteName

FD17- Rid ⟶ RouteName

BUSSTOP

BsId	BsName

FD18- BsId ⟶ BsName

TIMETABLE

TTId	Day	StTime	endTime	Interval

FD18- TTId ⟶ Day, StTime, endTime, Interval

OVERALLBUSINFO

ORid	OBsId	OTTId	OLicenseNo	DateofOperation	Status

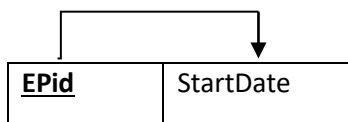**FD19-** ORid ,OBsId, OTTId ⟶ OLicenseNo , DateofOperation, Status

FD1,FD2,FD3,FD3,FD4,FD4,FD5,FD6,FD7,FD8,FD9,FD10,FD11,FD12,FD13,FD14,FD15,FD16,FD17,FD18,FD 19 are satisfying BCNF conditions. So all relations are in BCNF Form. This implies our Design satisfies both BCNF and 3NF also which satisfies our project requirement.

b.Draw a dependency diagram for each table from Phase III a.
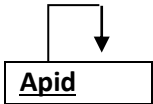
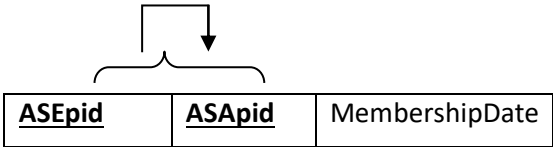**PERSON**
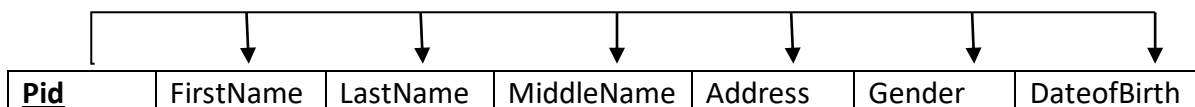
Pid	FirstName	LastName	MiddleName	Address	Gender	DateofBirth

EMPLOYEE

EPid	StartDate

ACLASSPASSENGER

Apid

ASTARPASSENGER

ASEpid	ASApid	MembershipDate

CHILDREN

CApid	CName	CAge

GUEST

GASEpid	GASAPid	GuestId	GName	ContactInfo

BUSDRIVER

BEPid

STAFF

SEPid

BUS

LicenseNo	No_Seats	BusNo
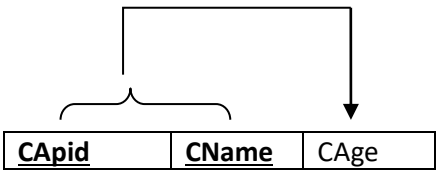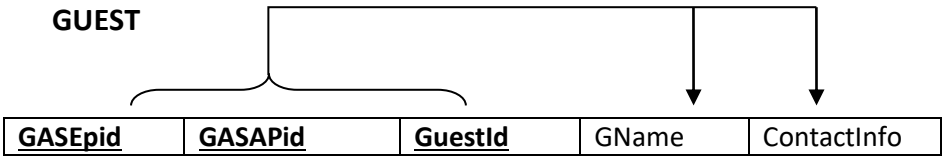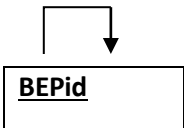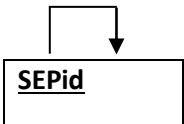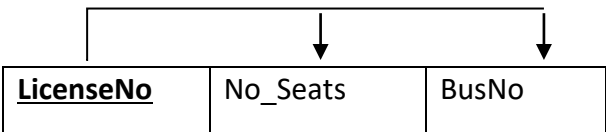
TERMINAL

TerminalId	Loc	Date	Time

DRIVES

DBEPid	DLicenseNo	Hours	Date

PARKED

PTerminalId	PLicenseNo

TICKET

TicketId	TPid	BusId	SeatNo	Price	TSEPid	DateofTravel

DARTPASS

DPassID	Expiry	Price	DPSEPid	DPPid

PAYMENT

PayId	Method	StaffId	PPid

TRAVELCARD

TravelCardID	Expiry	Price	StaffId	TCASAPid	TCASEPid	IssueDate	TravelCount

PROMOTIONS

PDPassID	PromotionId	PromotionName

ROUTE

Rid	RouteName

BUSSTOP

BsId	BsName

TIMETABLE

TTId	Day	StTime	endTime	Interval

OVERALLBUSINFO

ORid	OBsId	OTTId	OLicenseNo	DateofOperation	Status
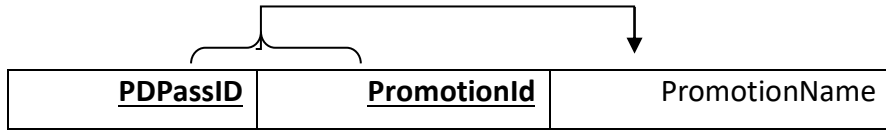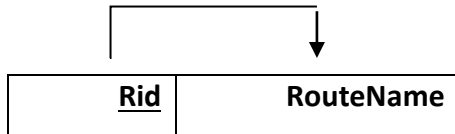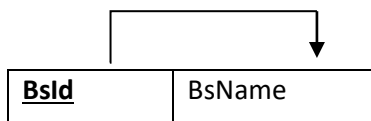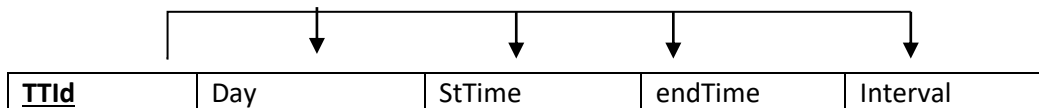
Write SQL statements to create database, tables and all other structures. Primary key and foreign keys must be defined as appropriate

TABLE CREATE STATEMENTS

```
CREATE TABLE "SGC190000"."PERSON"
    (    "Pid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         "FirstName" VARCHAR2(10 BYTE) NOT NULL ENABLE,
         "LastName" VARCHAR2(10 BYTE) NOT NULL ENABLE,
         "MiddleName" VARCHAR2(10 BYTE) NOT NULL ENABLE,
         "Address" VARCHAR2(100 BYTE) NOT NULL ENABLE,
         "Gender" VARCHAR2(7 BYTE) NOT NULL ENABLE,
         "DATEOFBIRTH" DATE NOT NULL ENABLE,
          PRIMARY KEY ("Pid"),
          CONSTRAINT "ID_FORMAT" CHECK (REGEXP_LIKE("Pid",'P[0-9][0-9][0-9]')) ENABLE,
          CONSTRAINT "AGE_CHECK" CHECK ("DATEOFBIRTH"<TO_DATE('01-01-2003','DD-MM-
YYYY')) ENABLE,
          CONSTRAINT "GENDERCHECK" CHECK ("Gender" in ('Male','Female','Other')) ENABLE
    )

CREATE TABLE "SGC190000"."AClassPassenger"
    (    "APid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
          PRIMARY KEY ("APid"),
          CONSTRAINT "AClassPassenger_FK1" FOREIGN KEY ("APid")
           REFERENCES "SGC190000"."PERSON" ("Pid")
    )

CREATE TABLE "SGC190000"."AStarPassenger"
    (    "ASAPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         "ASEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         "MembershipDate" DATE NOT NULL ENABLE,
          CONSTRAINT "AStarPassenger_PK" PRIMARY KEY ("ASAPid", "ASEPid"),
          FOREIGN KEY ("ASAPid")REFERENCES "SGC190000"."AClassPassenger" ("APid") ENABLE,
          FOREIGN KEY ("ASEPid")REFERENCES "SGC190000"."employee" ("EPid") ENABLE
    )

CREATE TABLE "SGC190000"."bus"
    (    "BusNo" NUMBER(*,0) NOT NULL ENABLE,
         "No_Seats" NUMBER(*,0) NOT NULL ENABLE,
         "LicenseNo" NUMBER(*,0) NOT NULL ENABLE,
          PRIMARY KEY ("LicenseNo"),
          CONSTRAINT "bus_UK1" UNIQUE ("BusNo")
    )
```
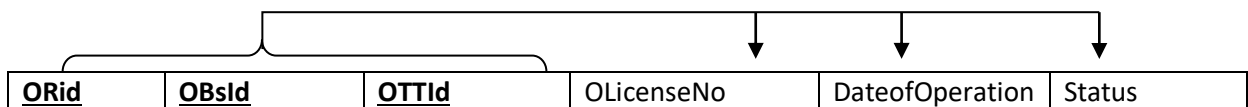
```sql
CREATE TABLE "SGC190000"."BusDriver"
   (    "BEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        PRIMARY KEY ("BEPid"),
        FOREIGN KEY ("BEPid")REFERENCES "SGC190000"."employee" ("EPid") ENABLE
   )

CREATE TABLE "SGC190000"."BusStop"
   (    "BsId" NUMBER(*,0) NOT NULL ENABLE,
        "BsName" VARCHAR2(20 BYTE) NOT NULL ENABLE,
        PRIMARY KEY ("BsId")
   )

CREATE TABLE "SGC190000"."Children"
   (    "CAPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "CName" VARCHAR2(15 BYTE) NOT NULL ENABLE,
        "CAge" NUMBER(*,0) NOT NULL ENABLE,
        CONSTRAINT "CAGE_CHECK" CHECK ("CAge"<18) ENABLE,
        FOREIGN KEY ("CAPid")
         REFERENCES "SGC190000"."AClassPassenger" ("APid") ENABLE
   )

CREATE TABLE "SGC190000"."Contains_Payment_Info"
   (    "CPISEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "CPIPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        FOREIGN KEY ("CPISEPid")
         REFERENCES "SGC190000"."staff" ("SEPid") ENABLE,
        FOREIGN KEY ("CPIPid")
         REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE
   )

CREATE TABLE "SGC190000"."DartPass"
   (    "DPassID" NUMBER(*,0) NOT NULL ENABLE,
        "Expiry" DATE NOT NULL ENABLE,
        "Price" NUMBER(*,0) NOT NULL ENABLE,
        "DPSEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "DPPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        PRIMARY KEY ("DPassID"),
        FOREIGN KEY ("DPPid")
         REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE,
        FOREIGN KEY ("DPSEPid")
         REFERENCES "SGC190000"."staff" ("SEPid") ENABLE
   )
```

```sql
CREATE TABLE "SGC190000"."Drives"
   (    "DBEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "Date" DATE NOT NULL ENABLE,
        "hours" NUMBER(*,0) NOT NULL ENABLE,
        "DLicenseNo" NUMBER(*,0) NOT NULL ENABLE,
         PRIMARY KEY ("DBEPid", "Date", "DLicenseNo"),
         FOREIGN KEY ("DBEPid")
          REFERENCES "SGC190000"."BusDriver" ("BEPid") ENABLE,
         FOREIGN KEY ("DLicenseNo")
          REFERENCES "SGC190000"."bus" ("LicenseNo") ENABLE
   )

CREATE TABLE "SGC190000"."employee"
   (    "EPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "StartDate" DATE NOT NULL ENABLE,
         PRIMARY KEY ("EPid"),
         CONSTRAINT "employee_FK1" FOREIGN KEY ("EPid")
          REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE
   )

CREATE TABLE "SGC190000"."Guest"
   (    "GASEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "GASAPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "GuestId" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "GName" VARCHAR2(15 BYTE) NOT NULL ENABLE,
        "ContactInfo" VARCHAR2(50 BYTE) NOT NULL ENABLE,
        "GUESTSSN" NUMBER NOT NULL ENABLE,
        "COLUMN2" VARCHAR2(50 BYTE) NOT NULL ENABLE,
         FOREIGN KEY ("GASAPid", "GASEPid")
          REFERENCES "SGC190000"."AStarPassenger" ("ASAPid", "ASEPid") ENABLE
   )

CREATE TABLE "SGC190000"."OverallBusInfo"
   (    "ORId" NUMBER(*,0) NOT NULL ENABLE,
        "OBsId" NUMBER(*,0) NOT NULL ENABLE,
        "OTTId" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "Status" VARCHAR2(10 BYTE) NOT NULL ENABLE,
        "OLicenseNo" NUMBER(*,0) NOT NULL ENABLE,
        "DateOfOperation" DATE NOT NULL ENABLE,
        "TimeArrived" VARCHAR2(5 BYTE) NOT NULL ENABLE,
         CONSTRAINT "STATUS" CHECK ("Status" in ('Delayed','On-Time','Cancelled')) ENABLE,
         FOREIGN KEY ("OBsId")
          REFERENCES "SGC190000"."BusStop" ("BsId") ENABLE,
         FOREIGN KEY ("ORId")
```

```
          REFERENCES "SGC190000"."route" ("Rid") ENABLE,
        FOREIGN KEY ("OTTId")
          REFERENCES "SGC190000"."TimeTable" ("TTId") ENABLE,
        FOREIGN KEY ("OLicenseNo")
          REFERENCES "SGC190000"."bus" ("LicenseNo") ENABLE
  )

CREATE TABLE "SGC190000"."Parked"
  (      "PTerminalId" NUMBER(*,0) NOT NULL ENABLE,
         "PLicenseNo" NUMBER(*,0) NOT NULL ENABLE,
         FOREIGN KEY ("PTerminalId")
          REFERENCES "SGC190000"."terminal" ("TerminalId") ENABLE,
         FOREIGN KEY ("PLicenseNo")
          REFERENCES "SGC190000"."bus" ("LicenseNo") ENABLE
  )

CREATE TABLE "SGC190000"."Payment"
  (      "PayId" NUMBER(*,0) NOT NULL ENABLE,
         "Method" VARCHAR2(10 BYTE) NOT NULL ENABLE,
         "Date" DATE NOT NULL ENABLE,
         "PPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         "StaffId" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         PRIMARY KEY ("PayId"),
         FOREIGN KEY ("PPid")
          REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE,
         FOREIGN KEY ("StaffId")
          REFERENCES "SGC190000"."staff" ("SEPid") ENABLE
  )

CREATE TABLE "SGC190000"."person_phonenumber"
  (      "Phone_Pid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
         "PhoneNumber" VARCHAR2(20 BYTE) NOT NULL ENABLE,
         PRIMARY KEY ("PhoneNumber"),
         CONSTRAINT "NUMBERMATCH" CHECK (Regexp_like("PhoneNumber",'[0-9]{10}'))
ENABLE,
         FOREIGN KEY ("Phone_Pid")
          REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE
  )




CREATE TABLE "SGC190000"."Promotions"
```

```
(       "PDPassID" NUMBER(*,0) NOT NULL ENABLE,
        "PromotionId" NUMBER(*,0) NOT NULL ENABLE,
        "PromotionName" VARCHAR2(15 BYTE) NOT NULL ENABLE,
         PRIMARY KEY ("PromotionId"),
         FOREIGN KEY ("PDPassID")
          REFERENCES "SGC190000"."DartPass" ("DPassID") ENABLE
)

CREATE TABLE "SGC190000"."route"
   (       "Rid" NUMBER(*,0) NOT NULL ENABLE,
           "RouteName" VARCHAR2(20 BYTE) NOT NULL ENABLE,
            PRIMARY KEY ("Rid")
   )

CREATE TABLE "SGC190000"."staff"
   (       "SEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
            PRIMARY KEY ("SEPid"),
            FOREIGN KEY ("SEPid")
             REFERENCES "SGC190000"."employee" ("EPid") ENABLE
   )
CREATE TABLE "SGC190000"."terminal"
   (       "TerminalId" NUMBER(*,0) NOT NULL ENABLE,
           "Loc" VARCHAR2(30 BYTE) NOT NULL ENABLE,
           "Date" DATE NOT NULL ENABLE,
           "Time" VARCHAR2(5 BYTE) NOT NULL ENABLE,
            PRIMARY KEY ("TerminalId")
   )
CREATE TABLE "SGC190000"."ticket"
   (       "TPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
           "TicketId" NUMBER(*,0) NOT NULL ENABLE,
           "BusId" NUMBER(*,0) NOT NULL ENABLE,
           "SeatNo" NUMBER(*,0) NOT NULL ENABLE,
           "Price" FLOAT(126) NOT NULL ENABLE,
           "TSEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
           "DATEOFTRAVEL" DATE NOT NULL ENABLE,
            PRIMARY KEY ("TicketId"),
            FOREIGN KEY ("TPid")
             REFERENCES "SGC190000"."PERSON" ("Pid") ENABLE,
            FOREIGN KEY ("BusId")
             REFERENCES "SGC190000"."bus" ("BusNo") ENABLE,
            FOREIGN KEY ("TSEPid")
             REFERENCES "SGC190000"."staff" ("SEPid") ENABLE
   )
```

CREATE TABLE "SGC190000"."TimeTable"
   ("TTId" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "Day" VARCHAR2(20 BYTE) NOT NULL ENABLE,
        "StTime" VARCHAR2(5 BYTE) NOT NULL ENABLE,
        "endTime" VARCHAR2(5 BYTE) NOT NULL ENABLE,
        "INTERVAL" NUMBER NOT NULL ENABLE,
         PRIMARY KEY ("TTId"),
         CONSTRAINT "TTID_FORMAT" CHECK (Regexp_like("TTId",'DT[0-9][0-9]')) ENABLE,
         CONSTRAINT "INTERVAL_CHECK" CHECK ("INTERVAL" in (15,20,30)) ENABLE,
         CONSTRAINT "DAYS" CHECK
(Regexp_like("Day",'(M|W|T|Th|F|Sat|Sun)(,(M|T|W|Th|F|Sat|Sun))*')) ENABLE
)

CREATE TABLE "SGC190000"."travelcard"
   ("TravelCardID" NUMBER(*,0) NOT NULL ENABLE,
        "Expiry" DATE NOT NULL ENABLE,
        "IssueDate" DATE NOT NULL ENABLE,
        "Price" FLOAT(126) NOT NULL ENABLE,
        "StaffId" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "TCASAPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "TCASEPid" VARCHAR2(4 BYTE) NOT NULL ENABLE,
        "TravelCount" NUMBER(*,0) NOT NULL ENABLE,
         PRIMARY KEY ("TravelCardID"),
         FOREIGN KEY ("StaffId")
          REFERENCES "SGC190000"."staff" ("SEPid") ENABLE,
         FOREIGN KEY ("TCASAPid", "TCASEPid")
          REFERENCES "SGC190000"."AStarPassenger" ("ASAPid", "ASEPid") ENABLE
)

VIEWS

1. CREATE VIEW "TopA-StarPassenger" AS (SELECT
    "FirstName","LastName","MembershipDate" from "PERSON","AStarPassenger" where
    "PERSON"."Pid" = "AStarPassenger"."ASAPid" and "AStarPassenger"."ASAPid" in (SELECT
    "TCASAPid" from "travelcard" WHERE "Expiry">to_date('23-NOV-2018','DD-MON-YYYY')
    Group by "TCASAPid" HAVING SUM("TravelCount")>=60));

	FirstName	LastName	MembershipDate
1	Janice	Joplin	26-02-19
2	Rob	Adams	18-08-15

2. CREATE VIEW "PopularBus" AS
   (SELECT "BusNo", "LicenseNo","No_Seats" from "bus"

   where "BusNo" IN

   (SELECT "BusId" from "ticket" WHERE "DATEOFTRAVEL">to_date('23-NOV-2017','DD-MON-

   YYYY')

   GROUP BY "BusId"

   ORDER BY COUNT(*) DESC

   FETCH FIRST 1 ROWS ONLY));

	BusNo	LicenseNo	No_Seats
1	4	45678	70

3. CREATE VIEW "TopDelayedCancelledBus" as
   (SELECT "BusNo","LicenseNo","No_Seats" from "bus" where "LicenseNo" in

   (SELECT "OLicenseNo" from "OverallBusInfo" where ("Status"='Delayed' or

   "Status"='Cancelled') and

   "OverallBusInfo"."DateOfOperation">TO_DATE('23-OCT-2019','DD-MON-YYYY')

   GROUP BY "OLicenseNo"

   ORDER BY COUNT(*) DESC

   FETCH FIRST 1 ROWS ONLY));

	BusNo	LicenseNo	No_Seats
1	3	34567	70

4. CREATE VIEW "PotentialAStarPassenger" AS
   (Select ,"Pid","FirstName","LastName","PhoneNumber" from

   "PERSON","person_phonenumber" where

   "PERSON"."Pid"="person_phonenumber"."Phone_Pid" and "PERSON"."Pid" in

   (Select "APid" from "AClassPassenger" where "APid" in

   (SELECT "TPid" from "ticket" where "DATEOFTRAVEL">TO_DATE('23-SEP-2019','DD-MON-

   YYYY') GROUP BY "TPid" HAving COUNT(*)>=40)));

	FirstName	LastName	PhoneNumber
1	Kenny	Rogers	2483293033

5. CREATE VIEW "TopEmployee" AS
(SELECT "Pid","FirstName","LastName" from "PERSON" where "Pid" in

(SELECT "TPid" from "ticket","employee" where "TPid"="EPid" and

"DATEOFTRAVEL">TO_DATE('23-OCT-2019','DD-MON-YYYY') GROUP BY "TPid" ORDER BY

COUNT(*) DESC FETCH FIRST 1 ROWS ONLY));

	Pid	FirstName	LastName
1	P001	James	Bond

SQL Queries

1. Select "Pid","FirstName","LastName" from PERSON where "Pid" in (select * from "staff");

	Pid	FirstName	LastName
1	P001	James	Bond
2	P002	Tim	Robbins
3	P003	Rob	Adams
4	P018	Wendy	Cho
5	P020	Paula	Kate

2. Select "Pid","FirstName","LastName" from "PERSON","AClassPassenger","employee" where "APid"="Pid" and "APid"="EPid";

	Pid	FirstName	LastName
1	P003	Rob	Adams
2	P004	Janice	Joplin
3	P007	Jerry	Lewis
4	P010	Sidd	Sekar
5	P014	Lionel	Messi
6	P016	Casey	Affleck
7	P018	Wendy	Cho
8	P020	Paula	Kate

3. SELECT AVG(TC) from (SELECT SUM("TravelCount") TC from "travelcard"
   where "Expiry">=TO_DATE('23-NOV-2018','DD-MON-YYYY') GROUP BY "TCASAPid"

   having sum("TravelCount")>=60 order by sum("TravelCount") DESC FETCH FIRST 5

   ROWS ONLY);

	AVG(TC)
1	80

4. SELECT "BusNo","RouteName" from "OverallBusInfo","route","PopularBus" where
   "PopularBus"."LicenseNo" = "OverallBusInfo"."OLicenseNo" and
   "OverallBusInfo"."ORId" = "route"."Rid";

	BusNo	RouteName
1	4	UTD-Plano

5. SELECT "OLicenseNo"from "bus","OverallBusInfo"
   where "DateOfOperation">=TO_DATE('23-10-2019','DD-MM-YYYY') and

   "Status"='Cancelled' GROUP BY "OLicenseNo"

   HAVING COUNT("OLicenseNo")>3;

	OLicen..
1	34567

6. Select "BusId",COUNT(*) as count from "ticket" Group By "BusId";

	BusId	COUNT
1	1	4
2	2	4
3	4	42

7. SELECT "DBEPid" from "Drives" where "Date">TO_DATE('16-11-2019','DD-MM-YYYY') group by "DBEPid" having COUNT(*)=7;

	DBEPid
1	P012

8. SELECT COUNT(DISTINCT t."TPid") as "PopularPeople" from "ticket" t, "PopularBus" p where p."BusNo"=t."BusId";

	PopularPeople
1	2

9. SELECT "TPid","TicketId","BusId","SeatNo","Price" from "ticket" where "TPid" in (Select "EPid" from "employee" order by "StartDate" DESC FETCH FIRST 1 ROWS ONLY);

	TPid	TicketId	BusId	SeatNo	Price
1	P007	52	4	14	6.99

10. SELECT DISTINCT "ASEPid" from "employee","AStarPassenger" where "MembershipDate">="employee"."StartDate" and "MembershipDate"<="employee"."StartDate"+30;

	ASEPid
1	P016
2	P020
3	P014
4	P018

11. SELECT "ORId" from "OverallBusInfo" Group by "ORId" order by COUNT(*) DESC FETCH FIRST 1 ROWS ONLY;

	ORId
1	5

12. SELECT "Pid","FirstName","LastName" from "PERSON" where "Pid" in
    (SELECT "ASAPid" from "AStarPassenger" where

    "AStarPassenger"."MembershipDate"<=TO_DATE('23-11-2014','DD-MM-YYYY')

    );

	Pid	FirstName	LastName
1	P014	Lionel	Messi
2	P016	Casey	Affleck
3	P018	Wendy	Cho
4	P020	Paula	Kate

13. Select "Pid","TicketId","BusId","Price","SeatNo" from "PotentialAStarPassenger","ticket"
    where
    "DATEOFTRAVEL">=TO_DATE('27-11-2018','DD-MM-YYYY') and

    "PotentialAStarPassenger"."Pid"="TPid";

	Pid	TicketId	BusId	Price	SeatNo
1	P005	51	4	6.99	14
2	P005	50	4	6.99	14
3	P005	49	4	6.99	14
4	P005	48	4	6.99	14
5	P005	47	4	6.99	14
6	P005	46	4	6.99	14
7	P005	45	4	6.99	14
8	P005	44	4	6.99	14
9	P005	43	4	6.99	14
10	P005	42	4	6.99	14
11	P005	41	4	6.99	14
12	P005	40	4	6.99	14
13	P005	39	4	6.99	14
14	P005	38	4	6.99	14
15	P005	37	4	6.99	14
16	P005	36	4	6.99	14
17	P005	35	4	6.99	14
18	P005	34	4	6.99	14
19	P005	33	4	6.99	14
20	P005	32	4	6.99	14
21	P005	31	4	6.99	14
22	P005	30	4	6.99	14