**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,FD19 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")

)

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,

CONSTRAINT "Children\_PK" PRIMARY KEY ("CAPid","CName"),

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

)

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,

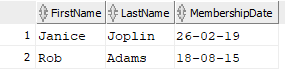
FOREIGN KEY ("TCASAPid", "TCASEPid")

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));



1. 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));



1. 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));



1. 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)));



1. CREATE VIEW "TopEmployee" AS

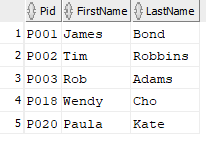
(SELECT "Pid","FirstName","LastName" from "PERSON" where "Pid" in

(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));

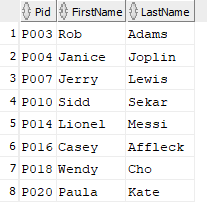


**SQL Queries**

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



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



1. 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);



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



1. SELECT "OLicenseNo"from "bus","OverallBusInfo"

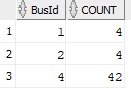
where "DateOfOperation">=TO\_DATE('23-10-2019','DD-MM-YYYY') and

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

HAVING COUNT("OLicenseNo")>3;



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



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



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

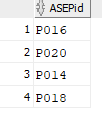


1. SELECT "TPid","TicketId","BusId","SeatNo","Price" from "ticket" where "TPid" in

(Select "EPid" from "employee" order by "StartDate" DESC FETCH FIRST 1 ROWS ONLY);



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



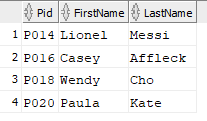
1. SELECT "ORId" from "OverallBusInfo" Group by "ORId" order by COUNT(\*) DESC FETCH FIRST 1 ROWS ONLY;



1. SELECT "Pid","FirstName","LastName" from "PERSON" where "Pid" in

( SELECT "ASAPid" from "AStarPassenger" where "AStarPassenger"."MembershipDate"<=TO\_DATE('23-11-2014','DD-MM-YYYY')

);



1. Select "Pid","TicketId","BusId","Price","SeatNo" from "PotentialAStarPassenger","ticket" where

"DATEOFTRAVEL">=TO\_DATE('27-11-2018','DD-MM-YYYY') and "PotentialAStarPassenger"."Pid"="TPid";

