

Rallybus

Panda Go

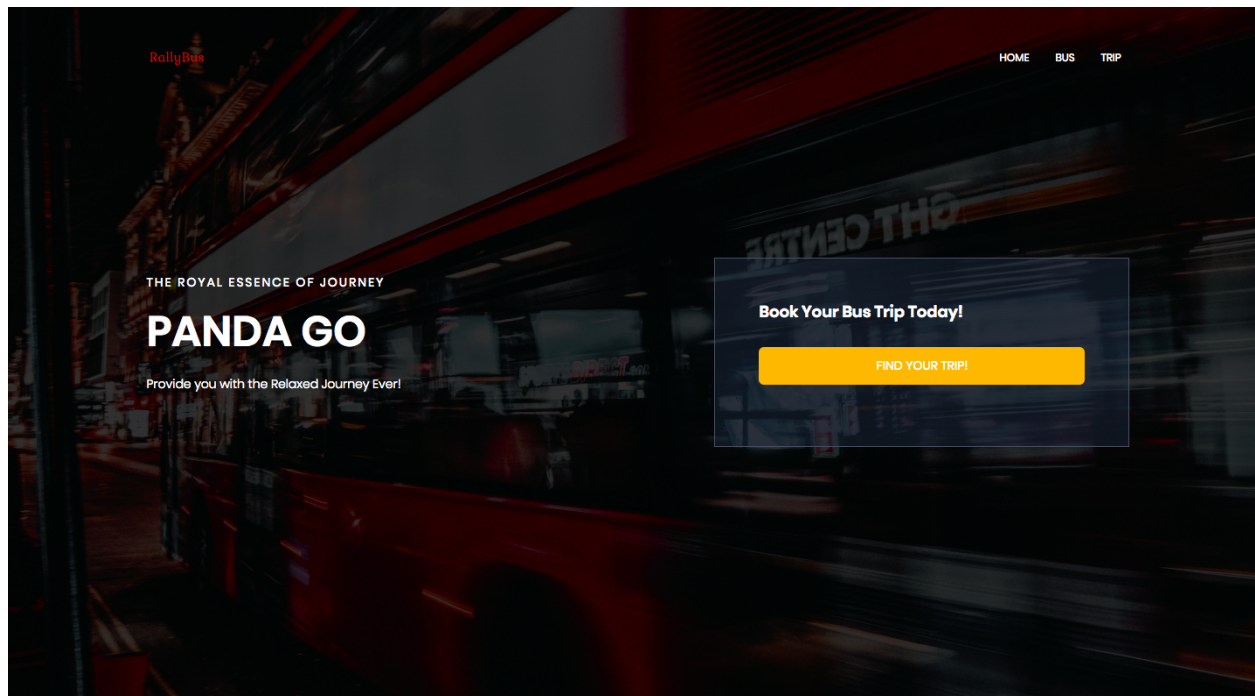
Shanshan Jiang & Yuehua Duan

Introduction

1. Video
2. Summary of the project
3. SQL Dump file

The Video

<https://youtu.be/5ucKWt7MKJM>



Summary of the project

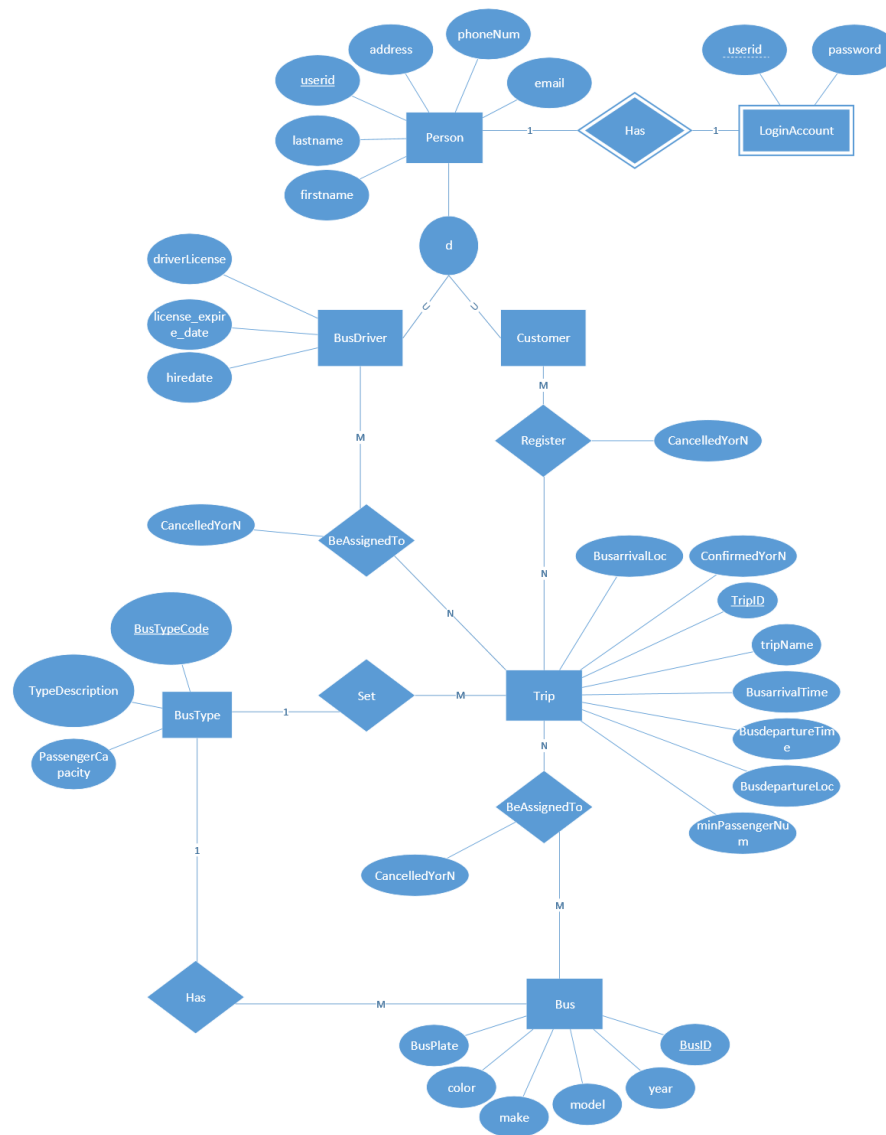
Executive summary for Project (include description of all software)

- Front End: HTML5/CSS3/AngularJS/Bootstrap.
- Back End object-oriented programming language: Java.
- Framework: Spring Boot.
- Database: Mysql

Business Rules (include any changes, assumptions)

- Person takes one to many trips, trip has one to many trips
- Bus is used on one to many trip and one trip can have many buses.
- Assume a bus driver can drive all kinds of buses.
- Each order would be confirmed after passenger number reach a threshold set by trip creator.

EERD (with narrative, include description of part of project that your group has implemented in MySQL and Web UI)



➤ EERD description:

Entities: Person (include bus driver and customer), Trip, LoginAccount, Bus and BusType

Relationship between entities:

Person has LoginAccount (one to one);

Customer registers a trip (many to many);

BusType is assigned to a Trip when it is created (one to many);

One bus has a BusType (many to one)

The entities and relationship between entities can be represented by the following schemas:

Person (userid, lastname, firstname, address, phoneNum, email, userType)

LoginAccount (userid(FK), password)

BusDriver (userid(FK), driverLicense, license_expire_date, hiredate)

Trip (TripID, TripName, arrivalTime, departureTime, arrivalLoc, departureLoc, minPassengerNum, busTypeCode(FK), ConfirmedYorN)

TripPassenger (userid(FK), TripID(FK), cancelledYorN)

TripBusDriver (TripID(FK), userid(FK), cancelledYorN)

TripBus (TripID(FK), BusID(FK), CancelledYorN)

Bus (BusID, BusPlate, BusTypeCode(FK), Color, Make, Model, Year)

BusType (busTypeCode, TypeDescription, PassengerCapacity)

➤ MySQL implementation

- Guest User can view the bus, and trip.
- A User can create an account, and login with that account, and they can update their personal information.
- Admin user can Add a new trip.

Data Dictionary (meta data)

List and description of advanced SQL statements to include:

Stored procedure

Trigger

Example of Delete and Update for one table

SQL for the views necessary for three required reports from the database(include nested query and conditional statements)

Transaction

Indexes for reports (discuss query optimization – use of indexes for where clauses, early selection in queries if applicable)

The SQL Dump File

#Team member: Shanshan Jiang; Yuehua Duan

#Project topic: rally bus

#last edit date: 4/5/18

#assume we only consider one city

DROP DATABASE IF EXISTS rallybus;

create database rallybus;

use rallybus;

#---Cell 1-----data initial generated randomly-----#

#create initial customer data

```
DROP TABLE IF EXISTS `customer`;
```

```
CREATE TABLE `customer` (  
  `cid` mediumint(8) unsigned NOT NULL auto_increment,  
  `lastname` varchar(255) default NULL,  
  `firstname` varchar(255) default NULL,  
  `street` varchar(255) default NULL,  
  `city` varchar(255),  
  `zip` varchar(255),  
  `phonenum` varchar(100) default NULL,  
  `email` varchar(255) default NULL,  
  `password` varchar(255),  
  `usertype` varchar(255) default NULL,  
  PRIMARY KEY (`cid`)  
) AUTO_INCREMENT=1;
```

```
INSERT INTO `customer`  
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES  
("Emmanuel","Sexton","461-8863 Donec Rd.,"Pondicherry","30580","(414)  
931-2563","congue.In.scelerisque@maurisSuspendisse.com","LUR75QBW2SI","customer"),("Ciara","  
Chang","Ap #319-9575 Nulla St.,"Tillet","49922","(321)  
233-3010","volutpat.ornare@euligula.com","MWL08ONA4HL","customer"),("Paki","Marquez","449-75  
06 Faucibus St.,"Wabamun","69005","(519)  
366-9095","Suspendisse@lacus.org","AXD80PSX8XL","customer"),("Amy","Burke","4002 Sapien  
Rd.,"Nakusp","04282","(234)  
340-6645","dolor.sit.amet@idenimCurabitur.org","THD32APH3KT","customer"),("Harriet","Boyle","Ap  
#659-4987 Montes, Ave","Mont-de-Marsan","34883","(293)  
859-8959","dolor.Fusce.mi@orciquis.net","EOF55MZS4FO","customer"),("MacKenzie","Mayer","Ap  
#366-3085 Montes, Road","Birmingham","45110","(604)
```



```
584-4700","Nulla@est.com","HYX07WFD0TZ","customer"),("Hop","Nichols","8754 Purus
Road","Cleveland","06997","(939)
329-7185","et@ipsum.edu","PBN45LJX3WL","customer"),("Portia","Park","Ap #357-795 Elit
Ave","Reading","82529","(941)
106-0736","rutrum.eu.ultrices@nonegestasa.org","MNB90XMS8GW","customer"),("Clinton","Brown",
"P.O. Box 847, 9420 Ullamcorper, Rd.,"Nocciano","12221","(983)
594-3404","imperdiet@convallisantelectus.ca","KXY39QMN4NM","customer"),("Jeanette","Drake","6
497 Tortor. St.,"Erie","24494","(395) 615-5040","eu@odioapurus.com","SEU37MPV0IY","customer");
```

```
INSERT INTO `customer`
```

```
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
("Olivia","Long","8439 Libero Rd.,"Schnebeck","23234","(420)
347-6225","mattis.ornare.lectus@enim.edu","FKE88WNCOLS","customer"),("Vivian","Morales","P.O.
Box 689, 6538 Vitae, Rd.,"Ballarat","25519","(780)
891-0471","tincidunt.pede@interdumligulaeu.edu","GTX12PLN3WV","customer"),("Joseph","Hale","Ap
#559-9226 Cursus. Ave","Morro d'Alba","55138","(337)
778-2769","porttitor@dictumplacerataugue.co.uk","MQW84MCA4ZX","customer"),("Idola","Gill","Ap
#387-6637 Est, Road","Labuissire","68506","(724)
708-7130","ac.mattis.velit@est.edu","TFZ69NLT4QQ","customer"),("Porter","Brady","744-682 Arcu.
St.,"Oss","14939","(440)
622-9907","malesuada.fames@orci.co.uk","JOR47BZQ7XL","customer"),("September","Mcneil","Ap
#262-1142 Nibh. Rd.,"San Fele","16992","(188)
790-8203","nisl.sem.consequat@malesuadaid.ca","WXE20VBX4CB","customer"),("Buffy","Joyner","1
90-5745 Cras Avenue","Ellikom","72709","(442)
627-5423","sapien.cursus@enimnectempus.ca","CIV08PAE6WG","customer"),("Judith","Pacheco","P.
O. Box 862, 2102 Lorem Street","Marchienne-au-Pont","12956","(295)
505-8319","pede.Suspendisse@sed.com","IPR80SGJ4VP","customer"),("Asher","Foreman","8092
Sem. St.,"Lens","68657","(892)
893-4604","dictum@odio.org","ZNM30TED0CZ","customer"),("Casey","Marks","P.O. Box 685, 1028
Cursus, Rd.,"Ramillies","83561","(863)
312-1431","Praesent.eu.dui@nibhQuisquenonummy.net","MJV60VYN5LQ","customer");
```

```
INSERT INTO `customer`
```

```
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
("Kylie","Wyatt","Ap #258-6994 Dolor. Rd.,"Spaniard's Bay","69427","(689)
555-2794","Etiam.bibendum@Aliquamfringilla.edu","WIZ15RLZ0FR","customer"),("Dolan","Booth","P.
O. Box 215, 944 Odio St.,"Béziers","48565","(914)
481-7815","id.ante.dictum@adipiscinglobortis.ca","LMG37ZUP1JN","customer"),("Lev","Jones","P.O.
Box 414, 7963 Magna. Rd.,"Castello di Godego","19544","(608)
225-9088","urna.suscipit@nibh.net","WAR52HZF6IM","customer"),("Diana","Sosa","9698 Euismod
```

Av.,"Negrete","98034","(719)
 459-2443","odio@arcuimperdiet.org","PKN59WYC7EZ","customer"),("Sylvester","Mills","9426
 Lobortis Avenue","Saint-Brieuc","34950","(751)
 679-6972","a.neque.Nullam@penatibus.net","EAG04ANW4GQ","customer"),("Freya","Beasley","P.O.
 Box 132, 8802 Consequat, St.,"Lincoln","05684","(582)
 454-6697","aliquet.sem@quis.net","RWG45OLC1HO","customer"),("Daniel","Cameron","Ap
 #202-6386 Risus. Rd.,"Patiala","27550","(971)
 332-5321","eget.volutpat@Etiamlaoreetlibero.com","FGO92IOE5RC","customer"),("Abraham","Daniel
 ","160-4775 Curabitur St.,"Hawick","61757","(977)
 672-4781","ut@fermentum.com","DUT39DHA2OU","customer"),("Kenneth","Mclean","231-8573 Duis
 St.,"Kruibeke","63048","(207)
 543-2345","eu@consectetueradipiscing.org","HEV24FTF9LR","customer"),("Brandon","Houston","67
 6-1081 Torquent St.,"San Pedro de la Paz","98624","(983)
 413-2266","amet@et.edu","NBM32QXL6OS","customer");

INSERT INTO `customer`
 (lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
 ("Byron","Fulton","Ap #585-8892 Vitae St.,"Delhi","35427","(176)
 593-3042","Sed.eu@lobortis.com","RYB89RPD7XO","customer"),("Laith","Daniel","P.O. Box 928,
 4568 Praesent St.,"Kolkata","99681","(265)
 918-6863","sit@penatibusetmagnis.ca","VFL99PUM0VR","customer"),("Oleg","Rose","3717 Sit
 Rd.,"Neufeld an der Leitha","55801","(367)
 244-0926","ullamcorper.magna@facilis.com","BUS89UEQ2EJ","customer"),("Priscilla","Oconnor","6
 36-987 Non Street","Barghe","93600","(294)
 548-8981","nec@nec.ca","JNA47IFB8EZ","customer"),("Anika","Mccarty","667-7877 Velit
 Av.,"Recanati","56238","(580)
 511-5140","imperdiet@pedeNunc.org","GLD84QGS7KC","customer"),("Imogene","Rivera","P.O. Box
 968, 6928 Faucibus Rd.,"Sint-Lambrechts-Woluwe","37155","(253)
 532-0708","natoque.penatibus@fermentumrisus.edu","EHX08MAW9FQ","customer"),("Lane","Mas
 n","P.O. Box 982, 1638 Vitae St.,"Bellingen","65280","(834)
 699-3560","ligula.Nullam.feugiat@enimcondimentum.ca","BNQ47RTA0GY","customer"),("Michael","
 McMahan","4348 Odio Av.,"Birmingham","15388","(633)
 710-4077","Integer.in.magna@arcueu.org","SAX90GGH3WI","customer"),("Chester","Lancaster","Ap
 #794-7499 Non, Rd.,"Nordhorn","92110","(707)
 879-6114","neque@liberoet.ca","DNC56CFL3VY","customer"),("Kessie","Bartlett","336-6380 Sem
 St.,"Lancaster","95052","(642) 224-5064","Donec@metus.edu","QVD32TNN2FG","customer");

INSERT INTO `customer`
 (lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
 ("Aaron","Strickland","712-572 Ridiculus Ave","Spermalie","43527","(650)

793-1317","rhoncus@Nuncac.edu","RFM24LQA0II","customer"),("Gretchen","Mcintyre","P.O. Box 105, 8714 Ornare Ave","Bonn","25646","(998)
 914-9623","Nulla.aliquet@atsemolestie.ca","MIU04MPY1XE","customer"),("Jordan","Rosario","Ap #152-4801 Tincidunt Avenue","Bandirma","05643","(887)
 465-6823","ipsum@posuere.co.uk","ZNR06JWZ7XW","customer"),("Quintessa","Carroll","Ap #443-4681 Vestibulum. Avenue","Mira Bhayandar","12356","(855)
 333-1252","per@orciconsectetuereuismod.ca","NIB32YAZ3JP","customer"),("Nasim","Weeks","466-9 166 Varius. Rd.,"Cinisi","88928","(414)
 538-2230","tempus.lorem.fringilla@pharetraQuisque.co.uk","EGE91OLR1DN","customer"),("Imelda","Landry","Ap #345-9706 Felis Road","Rengo","18528","(859)
 711-5816","pellentesque.massa.lobortis@cursusa.com","RLI92GRY9EN","customer"),("Molly","Beck","8421 Lacinia. St.,"Derby","51826","(816)
 793-2329","pede@justo.net","JJO32HGH3ZB","customer"),("Tara","Maynard","346-4653 Nunc Street","Licantén","24094","(694)
 826-5300","eget@neceuismod.net","SIR04JJB7TI","customer"),("Neil","Graves","Ap #399-2280 Ac St.,"Surrey","07879","(210)
 172-9312","consequat.auctor.nunc@ornarelectus.org","TKV29HDC7TQ","customer"),("Dacey","Luna","9452 Dolor. Ave","Santa Fiora","13768","(416)
 961-6449","lacus.Quisque.purus@primisin.net","IPJ38DUS7NS","customer");

INSERT INTO `customer`

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES

("John","Figueroa","9796 Vivamus Rd.,"Ske","09045","(187)

533-5845","lobortis@Nam.ca","GMV92TXU3WI","customer"),("Ramona","Goff","8437 Volutpat. St.,"Sasaram","06099","(811)

566-7505","Donec@libero.ca","HVB20EAD9UF","customer"),("Phillip","Curry","696-7142 Tempus Av.,"Kleinmachnow","91348","(768)

462-7675","habitant.morbi@Fuscealiquamenim.org","UIP20WBQ8LB","customer"),("Georgia","Ellison","9377 Id St.,"Hastings","95678","(339)

355-1245","Nunc.mauris.elit@tinciduntneque.org","UQW32DQI8FS","customer"),("Jakeem","Levine","223-4944 In Road","Billings","53787","(859)

984-6986","nunc.ac@dictum.edu","BYX54XOG8XW","customer"),("Maggie","Mason","6532 Mauris St.,"Parrano","02407","(965)

858-0837","facilis.eget@mi.org","ARY94DFM3JD","customer"),("Christine","Stanton","2792 At, Road","Kanchrapara","54109","(700)

453-1116","non.luctus@malesuadafringillaest.co.uk","FDN99DUW6VI","customer"),("Jennifer","McCra y","3222 Sagittis Rd.,"Lagundo/Algund","38924","(464)

357-6752","faucibus@nectellusNunc.co.uk","SYY65YYM1FR","customer"),("Jerry","Farmer","Ap #949-9887 Magna. Rd.,"Nelson","28916","(907)

```
874-6595","vitae@Aliquamnisl.net","OOL08DWT0LW","customer"),("Quyn","Dunn","9279 Aliquam Avenue","Montreal","85497","(802) 746-3935","imperdiet@lectusrutrum.edu","CJU68ZAF6GP","customer");
```

```
INSERT INTO `customer`  
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES  
("Nevada","Craig","942 Felis, Av.,"Moncton","11049","(265) 942-3345","magna@duiFuscealiquam.co.uk","NTY32YMH7MZ","customer"),("Danielle","Hinton","22 8-6521 Et Rd.,"Lauterach","02988","(774) 640-9518","posuere.cubilia.Curiae@FuscefeugiatLorem.net","BBM16OKZ6UR","customer"),("Finn","Rojas","3116 In Ave","Acireale","61415","(791) 847-8117","egestas.Fusce@dolor.edu","IFA01DHV1HI","customer"),("Rachel","Nolan","Ap #383-4109 Nulla Rd.,"Galzignano Terme","31003","(131) 695-8630","tellus.lorem@magnaNam.org","IPL00TCL9WA","customer"),("Ivana","Blankenship","P.O. Box 504, 5503 Vitae, Avenue","Montes Claros","44832","(700) 613-9421","Pellentesque@ornare.org","WJB10FNU2NR","customer"),("Kaitlin","Morgan","Ap #397-794 Massa. Avenue","Paranaguá","10033","(272) 196-9980","mi@Sed.co.uk","XRI64USW9VE","customer"),("Clarke","Ortega","P.O. Box 490, 9798 Ornare. Av.,"Abergele","52220","(168) 534-9818","lorem.sit@cursuspurusNullam.org","RBW99QUZ7OM","customer"),("Yuli","Ball","Ap #989-2214 Nunc St.,"Lanaken","38975","(165) 592-6513","odio@egetmollislectus.org","IGJ14SWL7YW","customer"),("Alec","Sykes","Ap #427-786 Justo Av.,"Frasnes-lez-Gosselies","92533","(159) 535-8783","Cum.sociis.natoque@ProinultricesDuis.com","UDR45MAW8RR","customer"),("Noelle","Robinson","877 In Street","Maser","54416","(702) 756-9987","eu.enim@senectuset.edu","WSF89OLM6KE","customer");
```

```
INSERT INTO `customer`  
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES  
("Chase","Trevino","308-3274 Gravida Rd.,"Hawera","67760","(649) 158-6353","ante.Vivamus@elitpellentesque.org","GIN88QQX2NO","customer"),("Kathleen","Hutchinson","Ap #531-7168 Lectus Av.,"Almelo","10899","(501) 395-5332","augue@miAliquamgravida.net","COF38YJR8VY","customer"),("Jared","Harding","2122 Eget St.,"Sooke","04221","(119) 267-9587","vehicula.et@enimnislelementum.co.uk","RHD94AZC6OY","customer"),("Hoyt","Blankenship","6254 Consectetuer Street","Sauvenire","71735","(672) 960-3929","elementum.dui@Namtempor.net","DYF93JVI4FD","customer"),("Harriet","Bishop","666-3 426 Cras St.,"Lossiemouth","03023","(787) 393-7764","purus.Nullam@euismodmauriseu.co.uk","MJU48UKG7IE","customer"),("Myra","Ware","87 84 Adipiscing Rd.,"South Dum Dum","83729","(228)
```

```

814-1426","in.consequat@pedePraesent.ca","UPU97ZGQ7NZ","customer"),("Kirsten","Castro","Ap
#787-1720 Aliquet. Av.,"Veenendaal","93142","(299)
288-9030","sit.amet@Nulla.net","RYD88JHK8RV","customer"),("Wanda","Reyes","609-5602 Donec
Av.,"Tolve","52080","(565)
820-7297","non.sapien@lectusNullam.co.uk","TKQ38CXT5XR","customer"),("Jaquelyn","Vaughn","19
20 Aenean Rd.,"Koninksem","58259","(575)
437-1624","urna.Vivamus@ultricesadipiscing.org","HAV41QEY5BE","customer"),("Shoshana","Rowe",
"958-9151 Sit Ave","Valparaíso de Goiás","12589","(993)
795-6207","metus@tempor.edu","FZA53ULI1SW","customer");

```

```

INSERT INTO `customer`

```

```

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
("Scott","Hubbard","961-2949 Est. Avenue","Coihueco","53351","(416)
549-4675","sem.molestie.sodales@magna.ca","RKQ49PAJ1TW","customer"),("TaShya","Mays","Ap
#106-4127 Aliquet Avenue","Diadema","80971","(323)
799-5251","semper.tellus.id@adipiscingelitEtiam.ca","HRE64YFC4TT","customer"),("Olivia","Byers","A
p #549-7076 Duis Road","Stirling","70479","(557)
915-8463","erat@egestasFuscealiquet.ca","FRQ07FXA3GG","customer"),("Farrah","Herring","P.O.
Box 471, 6054 Sollicitudin Av.,"Laurencekirk","46613","(755)
336-3157","arcu.Sed@VivamusrhonusDonec.net","HYC94HZW8KB","customer"),("Vivien","Sosa","A
p #653-5890 Vitae, Ave","Bussolengo","06079","(326)
142-7292","amet@arcueuodio.org","OPH90ELL9FH","customer"),("Lacey","Mccullough","Ap
#147-7773 Sagittis Road","Holyhead","13081","(101)
541-2779","ante.iaculis.nec@elit.co.uk","URP70VMA9OK","customer"),("Jamalia","Rodriquez","P.O.
Box 315, 304 Nunc Rd.,"Parbhani","05858","(875)
330-8282","id@sedleoCras.edu","OBD96MXS6LG","customer"),("David","Mcguire","884-7553
Tristique Rd.,"Legal","11525","(930)
326-4515","amet.ante@ipsumdolor.ca","BYJ66ZUI5YC","customer"),("Aveye","Mcdowell","Ap
#288-9212 Cras Avenue","South Portland","35445","(631)
398-1713","mauris.erat.eget@semegetmassa.net","KQV21XKD9EE","customer"),("Winter","Levy","Ap
#209-2434 Senectus St.,"Ruvo del Monte","36707","(815)
901-1103","sed.consequat.auctor@purus.ca","USV09EZN8FP","customer");

```

```

INSERT INTO `customer`

```

```

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`password`,`usertype`) VALUES
("Clark","Barr","2090 Sed St.,"Ramagundam","02227","(628)
167-9597","vitae@posuerevulputate.net","OTH84CHI8NA","customer"),("Dante","Dalton","P.O. Box
849, 6128 Tincidunt. Ave","Piancastagnaio","88916","(596)
959-4878","consectetuer.rhonus.Nullam@Duis.com","SKV19KAI4MH","customer"),("Francis","Manni
ng","1060 Aliquam Road","Ligney","83242","(202)

```

320-9481","per.inceptos@mus.net","CMK83GDF1RN","customer"),("Garth","Browning","872-785 Ut
 Ave","Villers-la-Bonne-Eau","75211","(895)
 231-0195","pellentesque.a@pedeac.ca","RLJ21UVT1BV","customer"),("Cynthia","Vaughn","839-5947
 Id St.","Springfield","58563","(561)
 155-6362","augue.ut.lacus@netusetmalesuada.net","CIA19IDN8GC","customer"),("Mallory","Vargas","
 Ap #130-355 Sodales Rd.,"Colico","04406","(901)
 594-2229","Suspendisse.sed.dolor@diamvel.com","EZQ94HUJ7XG","customer"),("Althea","Bell","461
 -4793 Vivamus St.,"Ottawa-Carleton","91873","(428)
 865-7256","Nulla.eget@Crasegetnisi.com","DID73WYG8LF","customer"),("Thane","Glenn","Ap
 #117-7110 Commodo Street","Sanzeno","77759","(464)
 140-7674","interdum@dignissim.com","LAB40GKV3GH","customer"),("Eagan","Hester","P.O. Box 849,
 1138 Condimentum Ave","Invercargill","14825","(695)
 760-3656","Duis@nuncsed.org","ETC05TDF7SB","customer"),("Chadwick","Barton","Ap #927-1359
 Eu Avenue","Wommelgem","92336","(277)
 951-5210","tempus.scelerisque@vitaeorciPhasellus.edu","CFM75MKA8XK","customer");

#here we only consider one city

alter table customer

drop column city;

alter table customer

drop column zip;

#create initial driver data

DROP TABLE IF EXISTS `driver`;

CREATE TABLE `driver` (

`did` mediumint(8) unsigned NOT NULL auto_increment,

`lastname` varchar(255) default NULL,

`firstname` varchar(255) default NULL,

`street` varchar(255) default NULL,

```

`city` varchar(255),
`zip` varchar(255),
`phonenum` varchar(100) default NULL,
`email` varchar(255) default NULL,
`driverLicense` varchar(255),
`license_expire_date` varchar(255),
`hiredate` varchar(255),
`password` varchar(255),
`usertype` varchar(255) default NULL,
PRIMARY KEY (`did`)
) AUTO_INCREMENT=1;

```

```

INSERT INTO `driver`
(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`driverLicense`,`license_expire_date`,`hiredate`,`password`,`usertype`) VALUES ("Dana","Page","Ap #322-5897 Sit Av.,"Lourdes","43415","(824) 184-6417","vel.arcu@Vivamusnibh.edu","X6X 2K2","11/09/2019","05/11/2017","GOW15YWX3ZK","driver"),("Georgia","Fischer","P.O. Box 369, 8264 Vulputate St.,"Vaughan","13424","(557) 152-2020","Duis.sit@faucibusorci.co.uk","D6Y 7Q5","17/05/2021","07/03/2016","TSZ40ZSU4YG","driver"),("Lenore","Mccall","Ap #321-7346 Interdum Rd.,"Rutland","72182","(452) 893-7657","sed.tortor.Integer@aliquetPhasellus.ca","Y4A 9M7","15/05/2024","18/11/2013","IOX60LXL8CB","driver"),("Theodore","Pollard","Ap #656-1099 Vel Ave","Kurnool","60651","(710) 311-8179","elit.Aliquam@odiosagittis.net","N6C 2P5","14/12/2024","17/07/2016","UEL66FBS8NV","driver"),("Cara","Hancock","Ap #935-3908 Luctus Road","Muridke","00845","(595) 395-0973","habitant.morbi@netuset.net","X3R 0T7","23/07/2020","03/11/2016","BIX38TOW5OT","driver"),("Nehru","Lamb","914-9115 Montes, Street","Longavi","74479","(252) 334-5976","Aliquam.gravida.mauris@Mauris.org","M5B 7X8","16/12/2023","10/01/2018","RTJ94LVP1AD","driver"),("Kiayada","Washington","3998 Est, Street","Promo-Control","98810","(343) 789-1025","facilis.magna.tellus@quamPellentesque.ca","C1Z 1G8","29/06/2023","15/07/2015","JHW57HGN2TH","driver"),("Garth","Duke","347-9435 Maecenas Street","Lauterach","91666","(479) 828-0928","auctor.nunc.nulla@maurisorhonus.net","B8P

```


6X8","22/04/2019","23/09/2013","NLQ06WPI1QI","driver"),("Keith","Briggs","903-632 Rutrum Rd.,"Talagante","94280","(702) 354-9640","eu.ultrices.sit@egestasnuncsed.ca","K9U 7A0","03/12/2023","22/08/2015","XSY98AJN4YB","driver"),("Merritt","Blevins","Ap #125-4650 Aliquet Street","Itajai","78214","(449) 672-5062","penatibus.et@natoque.ca","S4O 2L3","12/07/2019","29/09/2017","HHK84FKJ8BU","driver");

INSERT INTO `driver`

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`driverLicense`,`license_expire_date`,`hiredate`,`password`,`usertype`) VALUES ("Kristen","Levy","P.O. Box 824, 222 Nisi St.,"Chippenhams","05162","(437) 183-8517","tellus.sem.mollis@luctus.co.uk","V6L 9T6","26/10/2019","24/11/2014","BJP66LCT2JJ","driver"),("Charde","Kane","9411 Non Ave","Overland Park","00097","(611) 804-4832","Pellentesque@arcu.com","P7D 0S7","01/08/2022","16/01/2016","XXF92MWO1PM","driver"),("Kaseem","Banks","293-3314 Integer Ave","Castello Tesino","29889","(588) 561-7419","aliquet.libero@elit.co.uk","C9B 8Z4","07/07/2023","23/10/2016","XTM54AWV1QH","driver"),("Jennifer","Walton","786-7371 Aenean St.,"San Antonio","97663","(750) 149-1712","purus.Duis@Nullamut.org","J5T 5G7","29/12/2019","22/11/2015","FDA94PKN2FH","driver"),("Fuller","Hutchinson","793-1034 Eget St.,"Ponta Grossa","64501","(901) 471-3432","posuere.cubilia.Curae@estacfacilis.co.uk","I8Z 8Z0","12/08/2023","15/12/2014","REF41LXG9QD","driver"),("Clark","Watts","375-847 Pharetra Street","Río Claro","17954","(443) 938-9954","purus.Duis.elementum@quam.net","M6P 7V4","11/12/2022","15/07/2013","SLF03TTY8DP","driver"),("Ella","Russo","Ap #280-7106 Quam. Rd.,"Ramara","32016","(885) 443-8984","elit.Aliquam@elementumsemvitae.com","P8E 0K7","09/01/2022","02/05/2013","MHP71DWR4SN","driver"),("Charde","Beck","526-6710 Neque Street","Ville-en-Hesbaye","90607","(699) 679-4137","Etiam@inconsectetueripsum.ca","X1E 3Y5","06/11/2019","23/04/2016","DXH31MGA1ZE","driver"),("Alma","Koch","151-2711 A Avenue","Colina","78584","(286) 864-3662","dolor@iaculisodio.com","D3O 4U6","02/07/2022","12/04/2017","FDM59ILF1UR","driver"),("Nora","Calderon","P.O. Box 880, 155 Aenean Road","Châlons-en-Champagne","97331","(771) 968-0977","sem.eget.massa@sit.com","H9A 4E1","07/08/2023","08/01/2017","CBI25UVX9FV","driver");

INSERT INTO `driver`

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`driverLicense`,`license_expire_date`,`hiredate`,`password`,`usertype`) VALUES ("Faith","Mcmahon","Ap #487-6784 Nec, Rd.,"Messancy","16414","(897) 212-6652","ut.eros@tellus.edu","L7B 1Z2","08/02/2021","23/01/2017","ZQG57LKB9KU","driver"),("Giacomo","Washington","P.O. Box 287, 9072 Quis Av.,"Palermo","82760","(481) 121-9046","et@quamelementum.co.uk","Z6E 9Z1","22/04/2021","31/08/2016","VLA31EKZ6SV","driver"),("Lucian","Shepherd","871-8718 Magnis Avenue","Geel","18327","(589) 190-6281","euismod.ac.fermentum@semsemper.ca","Q3P 8C6","18/09/2024","22/08/2015","VJB50SYB3IM","driver"),("Perry","Summers","P.O. Box 456, 1829 Libero. Av.,"Clovenfords","12945","(327) 477-2238","id.libero@sed.net","O5Z

6Z6","25/10/2023","22/03/2018","XUM60URP2WT","driver"),("Calvin","Bartlett","202-8019 Nullam Road","Roma","07540","(986) 952-4185","Phasellus.fermentum.convallis@nisiAenean.ca","X8U 7H3","02/08/2024","25/05/2017","PIJ53TDF7LD","driver"),("Keegan","Hammond","Ap #107-8495 In Street","Broken Hill","82902","(904) 888-6805","orci@nec.edu","D5P 8Z1","03/10/2019","06/08/2017","QNL65NLE2QK","driver"),("Hu","Preston","Ap #485-8906 Dolor. Avenue","Hilversum","72709","(901) 816-7898","non.egestas.a@nec.com","H5E 0T3","08/10/2022","13/09/2014","LYJ14YTD7LC","driver"),("Elliott","Dunn","P.O. Box 852, 1460 Vel Av.,"Sankt Johann im Pongau","88456","(956) 429-4437","porttitor.interdum@magna.co.uk","R6D 6K5","19/12/2019","04/02/2018","JHA37FLM1KE","driver"),("Davis","Morse","Ap #793-6706 Natoque Ave","100 Mile House","99692","(755) 938-1577","Duis@fringillaDonecfeugiat.edu","M1C 5F7","28/11/2022","05/07/2014","GLJ43KQD3UQ","driver"),("Lester","Acevedo","356-5539 At Avenue","Bhiwani","69941","(423) 407-2086","tempus.non@accumsaninterdumlibero.edu","K2J 0N7","01/07/2024","02/11/2015","KNX91VLX1JS","driver");

INSERT INTO `driver`

(`lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`driverLicense`,`license_expire_date`,`hiredate`,`password`,`usertype`) VALUES ("Reece","Swanson","P.O. Box 392, 3246 Sed Avenue","Cametá","13664","(645) 779-0027","malesuada.vel.convallis@mi.ca","R2C 9N9","05/03/2024","02/04/2013","GJV93FDF6TG","driver"),("Tashya","Hanson","P.O. Box 771, 9078 Bibendum Ave","Marburg","39515","(165) 600-4923","consectetuer@necligula.ca","G9R 9E1","01/11/2023","12/10/2016","UOS20PVJ6PC","driver"),("Alexa","Zimmerman","7392 Nisi. Rd.,"Orilla","99982","(506) 993-6022","non@commodo.net","S7B 7K4","21/04/2022","31/05/2013","EKN46OSL5MP","driver"),("Andrew","Roth","968-1462 Ac Av.,"Kawawachikamach","23823","(915) 160-3156","malesuada@eutellus.net","A7J 3L9","17/11/2019","14/03/2015","KMW95DLY6EW","driver"),("Linda","Buck","7930 Lacus Road","Naninne","40567","(894) 336-6233","vulputate.posuere.vulputate@arcuimperdiet.co.uk","B4F 4A6","02/04/2020","24/09/2016","FPY81HHA6GE","driver"),("Vanna","Wallace","1797 Netus St.,"Pictou","32962","(205) 206-5702","Donec.elementum.lorem@eros.net","L9L 9P1","29/06/2020","29/03/2018","NHI50YMJ9ML","driver"),("David","Robertson","P.O. Box 369, 3377 Inceptos Rd.,"Cisano Bergamasco","98236","(349) 962-0778","neque.Sed.eget@Suspendisсед.co.uk","T7X 7B7","07/11/2019","01/10/2015","SON55YFF8RR","driver"),("Curran","Rivers","849-3101 Ut Av.,"Bikaner","03553","(546) 619-6482","nonummy@consequat.co.uk","F2J 5N8","27/06/2022","03/02/2017","DKJ65LFN0ZK","driver"),("Brian","Hunt","6836 Mauris Avenue","Colonnella","01275","(775) 768-8625","risus@venenatis.com","D2I 0X9","03/06/2020","09/07/2015","SYQ92GEY9VW","driver"),("Wyoming","Reid","P.O. Box 967, 2434 Vestibulum Rd.,"Knoxville","72841","(954) 846-3815","sociosqu.ad@ultricesornareelit.com","TOU 3P8","25/11/2024","31/03/2016","KVX52RUR0IJ","driver");

```

INSERT INTO `driver`
(lastname`,`firstname`,`street`,`city`,`zip`,`phonenum`,`email`,`driverLicense`,`license_expire_date`,`hiredate`,`password`,`usertype`) VALUES ("Chantale","Dickson","252-825 Nec Ave","Licantén","56207","(542) 956-8483","est.Nunc@fermentumvelmauris.edu","D4W6V1","17/01/2023","02/10/2015","BDI74NLV5IP","driver"),("Amy","Durham","3706 Tellus Ave","Muridke","40072","(895) 172-6882","ornare@sociis.co.uk","l1Z3J3","21/11/2020","16/05/2016","IET40MMD3LF","driver"),("Jerome","Washington","P.O. Box 884, 9427 A Rd.,"Wood Buffalo","01548","(111) 659-6309","sit.amet.faucibus@Namnullamagna.org","A9A3G7","13/12/2019","13/09/2016","VBD24SSR8FS","driver"),("Kalia","Singleton","P.O. Box 971, 3765 Donec Avenue","San Leucio del Sannio","61849","(329) 776-1209","diam@sagittis.ca","Q8J9F4","22/01/2020","27/03/2017","FMM18CZQ2FI","driver"),("Ethan","Larsen","9263 Aliquam Ave","Castelvechio di Rocca Barbena","30579","(130) 677-6255","eget.ipssum.Donec@ipsumdolorsit.ca","Q5X8B1","11/07/2021","23/07/2013","RRL76BJT3CZ","driver"),("Flynn","Rush","Ap #465-6192 Vitae Rd.,"Nil-Saint-Vincent-Saint-Martin","10858","(200) 125-0792","cursus.et.magna@magna.org","J4E7N9","28/03/2023","14/07/2014","IOP77GDA0ZC","driver"),("Unity","Clay","3722 Proin Road","Palakkad","19710","(605) 125-7622","a@Nam.ca","J9J2P2","11/10/2024","08/04/2014","DHD55TSB2YX","driver"),("Quinlan","Cline","940-8564 Sed St.,"Sheffield","51925","(837) 844-6419","consequat@Sedegetlacus.org","L0N0L5","11/02/2022","14/11/2015","SSE52MDG6WJ","driver"),("Jolene","Burns","2552 Aliquet St.,"Wangaratta","58934","(601) 287-9263","non@adlitoratorquent.com","J8J4S1","22/03/2020","11/02/2014","FNH62FYN7UM","driver"),("Rooney","Albert","620-239 Ullamcorper Rd.,"San Chirico Nuovo","19801","(709) 116-3076","adipiscing.elit@nonummyutmolestie.co.uk","F6P1I9","16/03/2025","22/02/2014","ULN32RBP3EV","driver");

```

```
#here we only consider one city
```

```
alter table driver
```

```
drop column city;
```

```
alter table driver
```

```
drop column zip;
```

```
#create initial bus type data
```

```
DROP TABLE IF EXISTS bustype;
```

```
CREATE TABLE `bustype` (
  `bustypecode` mediumint(9) unsigned not null auto_increment,
  `typedescription` varchar(100),
  `passengercapacity` int default null,
  primary key (`bustypecode`)
)AUTO_INCREMENT=1;
```

```
insert into bustype(typedescription,passengercapacity)
values('motorcoach',55),('minibus',32),('executivebus',24),('schoolbus',48),('limobus',40);
```

#create initial bus data

```
DROP TABLE IF EXISTS `busini`;
```

```
CREATE TABLE `busini` (
  `busid` mediumint(8) unsigned NOT NULL auto_increment,
  `plate` varchar(255),
  `bustypecode` mediumint(8) unsigned default NULL,
  `color` varchar(255) default NULL,
  `make` varchar(255) default NULL,
  `year` mediumint default NULL,
  PRIMARY KEY (`busid`)
) AUTO_INCREMENT=1;
```

```
INSERT INTO `busini` (`plate`,`bustypecode`,`color`,`make`,`year`) VALUES ("N4Y
2V7","5","violet","GMC",2017),("S6H 4M8","4","violet","Maruti Suzuki",2011),("I4H
```

```
1S5","1","blue","Ferrari",2007),("B6S 7Q2","4","yellow","Porsche",2015),("I7G
3C1","2","indigo","Porsche",2014),("W2U 5Y5","1","violet","Chrysler",2016),("M0W 2U7","1","violet","Kia
Motors",2016),("W1U 5A0","2","violet","Tata Motors",2008),("J8N 4W2","3","violet","Lexus",2011),("F8O
1M9","4","orange","Buick",2012);
```

```
INSERT INTO `busini` (`plate`,`bustypecode`,`color`,`make`,`year`) VALUES ("K4A
9X9","3","blue","Chrysler",2011),("B7D 2Z8","3","orange","Mahindra and Mahindra",2015),("C1L
3L3","3","orange","Mazda",2016),("S4N 1Z1","1","indigo","Daimler",2011),("M2W
1N5","2","indigo","Lincoln",2016),("Q8X 3H4","4","violet","Tata Motors",2017),("R4Y 2R5","1","blue","Tata
Motors",2013),("P5H 0B8","3","blue","Kia Motors",2016),("Y8J 3B4","1","violet","Nissan",2017),("S2N
0S7","3","orange","Mercedes-Benz",2011);
```

```
INSERT INTO `busini` (`plate`,`bustypecode`,`color`,`make`,`year`) VALUES ("C9T
8F0","5","blue","Mazda",2013),("S2T 0T6","1","blue","MINI",2007),("U6U
6Y5","3","orange","Fiat",2014),("F0E 1B5","1","green","Kia Motors",2014),("R4P
0I2","3","red","Ferrari",2008),("F0B 4F7","4","green","Honda",2007),("S9V
5A5","2","green","Lexus",2016),("LOL 5V2","3","red","Subaru",2017),("X7F
6K8","1","blue","Nissan",2014),("Z4G 6G6","3","violet","General Motors",2012);
```

```
INSERT INTO `busini` (`plate`,`bustypecode`,`color`,`make`,`year`) VALUES ("S0F
5P0","2","blue","Seat",2015),("R4P 7U2","4","orange","Dacia",2017),("B4J
1K0","1","violet","Cadillac",2008),("N5M 5N6","2","orange","Buick",2009),("Z0S
2Y5","4","orange","Audi",2009),("E7M 0U5","1","orange","Hyundai Motors",2012),("B1Z
2K8","4","blue","Renault",2014),("U6G 7K9","4","orange","Renault",2011),("X1C
6O2","4","violet","Cadillac",2008),("L3M 4B5","2","green","Dongfeng Motor",2016);
```

```
INSERT INTO `busini` (`plate`,`bustypecode`,`color`,`make`,`year`) VALUES ("H8I
6T7","1","orange","Seat",2008),("A4E 0P9","5","violet","Citroën",2011),("O1Z
2Y4","4","blue","Dodge",2009),("L9P 4S4","3","orange","Vauxhall",2010),("M4U
0G2","5","blue","Audi",2016),("G9P 3E5","4","indigo","GMC",2017),("P5Q 3F7","4","violet","Tata
Motors",2008),("W4S 1T1","2","violet","Vauxhall",2014),("S2R 6O2","1","violet","Daimler",2016),("POV
6Q7","4","orange","Honda",2017);
```

```
#create initial trip data
```

```
DROP TABLE IF EXISTS `tripini`;
```

```
CREATE TABLE `tripini` (
```

```

`tripid` mediumint(9) unsigned NOT NULL auto_increment,
`tripname` TEXT default NULL,
`arrivaltime` varchar(255),
`departuretime` varchar(255),
`arrivalstreet` varchar(255) default NULL,
`arrivalcity` varchar(255),
`arrivalzip` varchar(255),
`departurestreet` varchar(255) default NULL,
`departurecity` varchar(255),
`departurezip` varchar(255),
`minpassengernum` mediumint default NULL,
`bustypecode` mediumint(9) unsigned default NULL,
`confirmedYorN` varchar(255) default NULL,
PRIMARY KEY (`tripid`)
) AUTO_INCREMENT=1;

```

```

INSERT INTO `tripini`
(`tripid`,`tripname`,`arrivaltime`,`departuretime`,`arrivalstreet`,`arrivalcity`,`arrivalzip`,`departurestreet`,`
departurecity`,`departurezip`,`minpassengernum`,`bustypecode`,`confirmedYorN`) VALUES
(1,"dapibus quam","2018-04-10 09:05","2018-04-10 16:20","388-7745 Eget
Rd.,"Kearny","72296","P.O. Box 455, 212 Cursus Avenue","La Thuile","82677",12,5,"N"),(2,"vitae
odio","2018-04-12 09:00","2018-04-12 18:20","Ap #656-3533 Tempor St.,"Lörrach","63182","P.O. Box
572, 9931 Eros Rd.,"Marzi","56444",11,2,"N"),(3,"Donec non","2018-04-15 09:00","2018-04-15
14:30","982-7075 Ac, Street","Itajaí","11519","Ap #855-3139 Maecenas Av.,"Fossato di
Vico","46400",10,5,"N"),(4,"malesuada","2018-04-15 10:30","2018-04-15 17:40","175-949 Suspendisse
St.,"Devonport","25771","P.O. Box 956, 5464 Dolor.
Avenue","Sint-Denijs","27645",14,2,"N"),(5,"non","2018-04-20 12:40","2018-04-20 18:20","120-3077
Nam Avenue","North Saanich","33606","316-5927 Neque. Avenue","Hohen
Neuendorf","61610",11,5,"N"),(6,"blandit viverra","2018-04-22 10:00","2018-04-22 16:50","P.O. Box

```

878, 8177 Quisque Avenue","Thon","66495","4295 Aliquet Avenue","Puchuncavi","10630",14,2,"N"),(7,"In at","2018-04-25 18:00","2018-04-25 22:00","P.O. Box 191, 270 Elit Rd.,"Bearberry","37217","P.O. Box 202, 4702 Libero. Ave","Los Vilos","74628",11,2,"N"),(8,"est ac","2018-04-26 09:40","2018-04-26 15:50","2399 Sed Rd.,"Bay Roberts","19167","195-974 Arcu. Rd.,"Canberra","72474",13,2,"N"),(9,"Curabitur sed","2018-04-26 09:00","2018-04-26 19:10","Ap #197-9995 Nulla. Avenue","San Martino in Pensilis","59647","810-779 Dolor. Ave","Cumberland County","05033",15,3,"N"),(10,"sociis","2018-04-27 09:00","2018-04-27 15:40","Ap #825-5090 Magna. Av.,"Stonewall","09373","P.O. Box 569, 3311 Nisi Avenue","Beerst","93501",15,1,"N");

INSERT INTO `tripini`

(`tripid`,`tripname`,`arrivaltime`,`departuretime`,`arrivalstreet`,`arrivalcity`,`arrivalzip`,`departurestreet`,`departurecity`,`departurezip`,`minpassengernum`,`bustypecode`,`confirmedYorN`) VALUES (11,"eros turpis","2018-05-02 08:10","2018-05-02 15:30","Ap #496-9746 Urna. St.,"Antuco","62797","453-2352 Mauris St.,"Rizes","54123",14,4,"N"),(12,"pharetra","2018-05-03 13:00","2018-05-03 22:00","P.O. Box 732, 8634 Proin Rd.,"Rivello","52887","P.O. Box 734, 1982 Nunc Rd.,"Castiglione di Garfagnana","31067",14,3,"N"),(13,"dolor. Nulla","2018-05-03 09:00","2018-05-03 17:00","P.O. Box 942, 397 Rhoncus. Street","Kester","07254","943-3046 Laoreet Street","Senneville","83156",14,2,"N"),(14,"rutrum","2018-05-05 10:30","2018-05-05 17:00","982-7279 Non, St.,"Turrialba","62053","P.O. Box 587, 2656 In Ave","Cisterna di Latina","78423",15,3,"N"),(15,"dictum sapien.,"2018-05-08 10:00","2018-05-08 21:40","7334 Felis Ave","Introd","26530","324 Ipsum. St.,"Anjou","78243",14,2,"N");

#here we only consider one city

alter table tripini

drop column arrivalcity;

alter table tripini

drop column arrivalzip;

alter table tripini

drop column departurecity;

alter table tripini

drop column departurezip;

#-----CELL 2-----Processing of initial data-----#

#create person table

DROP TABLE IF EXISTS person1;

CREATE TABLE `person1` (

 #`userid` mediumint(8) unsigned NOT NULL auto_increment,

 `lastname` varchar(255) default NULL,

 `firstname` varchar(255) default NULL,

 `address` varchar(255) default NULL,

 `phonenum` varchar(100) default NULL,

 `email` varchar(255) default NULL,

 `password` varchar(255),

 `usertype` varchar(255) default NULL

 #PRIMARY KEY (`userid`)

); #AUTO_INCREMENT=1;

insert into person1(lastname,firstname,address,phonenum,email,password,usertype)

select lastname,firstname,street,phonenum,email,password,usertype

from customer;

insert into person1(lastname,firstname,address,phonenum,email,password,usertype)

select lastname,firstname,street,phonenum,email,password,usertype

from driver;

DROP TABLE IF EXISTS person;

CREATE TABLE `person` (

 `userid` mediumint(8) unsigned NOT NULL auto_increment,

```
`lastname` varchar(255) default NULL,  
`firstname` varchar(255) default NULL,  
`address` varchar(255) default NULL,  
`phonenum` varchar(100) default NULL,  
`email` varchar(255) default NULL,  
`password` varchar(255),  
`usertype` varchar(255) default NULL,  
PRIMARY KEY (`userid`)  
)AUTO_INCREMENT=1;
```

```
insert into person(lastname,firstname,address,phonenum,email,password,usertype)  
select * from person1;
```

```
#create bus driver table
```

```
DROP TABLE IF EXISTS busdriver;
```

```
create table busdriver
```

```
select userid,driverLicense,license_expire_date,hiredate
```

```
from person,driver
```

```
where person.lastname = driver.lastname and person.firstname = driver.firstname;
```

```
ALTER TABLE busdriver ADD FOREIGN KEY (`userid`) REFERENCES person(`userid`);
```

```
#create bus table
```

```
DROP TABLE IF EXISTS bus;
```

```
create table bus
```



```
select * from busini;
```

```
ALTER TABLE bus ADD PRIMARY KEY (`busid`);
```

```
ALTER TABLE bus ADD FOREIGN KEY (`bustypecode`) REFERENCES bustype(`bustypecode`);
```

```
#create login account table
```

```
DROP TABLE IF EXISTS loginaccount;
```

```
create table loginaccount
```

```
select userid,password
```

```
from person;
```

```
ALTER TABLE loginaccount ADD FOREIGN KEY (`userid`) REFERENCES person(`userid`);
```

```
#delete password in person to normalize
```

```
ALTER TABLE person
```

```
DROP COLUMN password;
```

```
#create trip table
```

```
DROP TABLE IF EXISTS trip;
```

```
create table trip
```

```
select * from tripini;
```

```
ALTER TABLE trip ADD PRIMARY KEY (`tripid`);
```

```
ALTER TABLE trip ADD FOREIGN KEY (`bustypecode`) REFERENCES bustype(`bustypecode`);
```

```
#create trip passenger
```

```

DROP TABLE IF EXISTS trippassenger;

CREATE TABLE `trippassenger` (
  `userid` mediumint(8) unsigned default NULL,
  `tripid` mediumint(8) unsigned default NULL,
  `cancelledYorN` varchar(255) default 'N',
  FOREIGN KEY (`userid`) REFERENCES person(`userid`),
  FOREIGN KEY (`tripid`) REFERENCES trip(`tripid`)
);

```

#create trip driver

```

DROP TABLE IF EXISTS tripdriver;

CREATE TABLE `tripdriver` (
  `userid` mediumint(8) unsigned default NULL,
  `tripid` mediumint(8) unsigned default NULL,
  `cancelledYorN` varchar(255) default 'N',
  FOREIGN KEY (`userid`) REFERENCES person(`userid`),
  FOREIGN KEY (`tripid`) REFERENCES trip(`tripid`)
);

```

#create trip bus

```

DROP TABLE IF EXISTS tripbus;

CREATE TABLE `tripbus` (
  `tripid` mediumint(8) unsigned default NULL,
  `busid` mediumint(8) unsigned default NULL,

```

```

`cancelledYorN` varchar(255) default 'N',

FOREIGN KEY (`tripid`) REFERENCES trip(`tripid`),

FOREIGN KEY (`busid`) REFERENCES bus(`busid`)

);

```

```

#---CELL 3-----clear current table-----#

```

```

DROP TABLE IF EXISTS busini;

DROP TABLE IF EXISTS person1;

DROP TABLE IF EXISTS tripini;

DROP TABLE IF EXISTS customer;

DROP TABLE IF EXISTS driver;

```

```

#---CELL 4-----generate test data-----#

```

```

DROP TABLE IF EXISTS `testdata`;

CREATE TABLE `testdata` (

  `id` mediumint(8) unsigned NOT NULL auto_increment,

  `trip` mediumint default NULL,

  `customer` mediumint default NULL,

  PRIMARY KEY (`id`)

) AUTO_INCREMENT=1;

```

```

INSERT INTO `testdata` (`trip`,`customer`) VALUES
(12,45),(12,28),(8,79),(4,87),(2,75),(13,19),(1,11),(12,34),(6,39),(5,38);

```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(15,6),(4,86),(14,98),(3,80),(12,26),(11,12),(11,21),(13,47),(13,31),(3,13);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(5,60),(13,54),(4,6),(15,92),(13,61),(3,31),(4,86),(7,99),(8,40),(14,53);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(6,10),(9,49),(8,93),(8,72),(11,12),(3,100),(3,100),(7,87),(7,60),(3,75);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(9,20),(11,17),(8,32),(1,86),(1,32),(6,5),(5,41),(6,73),(14,63),(11,61);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(1,94),(12,66),(7,79),(10,78),(3,94),(14,97),(12,25),(1,45),(1,13),(7,89);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(13,58),(5,89),(4,30),(6,26),(2,41),(10,95),(6,63),(1,51),(14,10),(11,88);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(12,52),(4,80),(9,11),(4,25),(9,100),(8,79),(1,33),(14,87),(1,39),(12,13);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(9,82),(15,75),(11,57),(9,93),(4,15),(1,48),(12,81),(8,63),(4,69),(14,86);
```

```
INSERT INTO `testdata` (`trip`,`customer`) VALUES
(6,51),(11,14),(1,67),(3,87),(12,18),(7,22),(7,87),(5,80),(12,41),(4,70);
```

```
DROP TABLE IF EXISTS test;
```

```
create table test
```

```
select distinct trip,customer
```

```
from testdata;
```

```
ALTER TABLE test ADD recordid mediumint(8) unsigned NOT NULL auto_increment primary key;
```

```
DROP TABLE IF EXISTS testdata;
```

```
#-----TABLES GENERATED COMPLETE-----#
```

```
#---CELL 5-----FUNCTIONS,PROCEDURES,TRIGGERS--#
```

```

#---procedure 1: count valid passenger number-----#

DROP PROCEDURE IF EXISTS count_passenger;

delimiter $$

create procedure count_passenger (OUT numberPass DOUBLE)

begin

SET numberPass = (

select COUNT(userid)

from trippassenger

where userid is not null and tripid is not null and cancelledYorN <> 'Y'

);

end $$

delimiter ;

#---procedure 2: assign bus to trip if trip is confirmed---#

DROP PROCEDURE IF EXISTS assign_bus;

delimiter $$

create procedure assign_bus (IN tripind INT, IN passnum INT)

begin

DECLARE buscap INT unsigned DEFAULT 1;

DECLARE busnum INT unsigned DEFAULT 1;

DECLARE orderbus INT unsigned DEFAULT 1;

DECLARE i int DEFAULT 0;

set orderbus = (select bustypecode from trip where tripid = tripind);

set buscap = (select passengercapacity from bustype where bustypecode = orderbus);

set busnum = ceiling(passnum/buscap);

```

```

delete from tripbus
where tripid = tripind;

if tripind not in (select tripid from tripbus) then
insert into tripbus(busid,tripid)
select busid,tripind from bus

#where bustypecode = orderbus limit busnum;

where bustypecode = orderbus and busid not in (select busid from tripbus) limit busnum;

#here needs check time collision

call assign_driver(tripind, busnum);

end if;

end $$

delimiter ;

```

```

#---procedure 3: assign driver to trip if trip is confirmed---#

DROP PROCEDURE IF EXISTS assign_driver;

delimiter $$

create procedure assign_driver (IN tripind INT, IN busnum INT)

begin

delete from tripdriver

where tripid = tripind;

insert into tripdriver(userid,tripid)

select userid,tripind from busdriver

where userid not in (select userid from tripdriver) limit busnum;

```

```

#where bustypecode = bustype and busid not in (select busid from tripbus) limit passnum;

#here needs check time collision

end $$

delimiter ;

```

```

#---trigger 1: after customer register a trip, check if this trip meets minpassenger num,

#if yes, change that trip status to confirmed. alter

DROP TRIGGER IF EXISTS update_tripstatus;

delimiter $$

create trigger update_tripstatus

after insert on trippassenger #trigger-event: insert, update, delete

for each row #for each insert row

#trigger action

begin

DECLARE buscap INT unsigned DEFAULT 1;

DECLARE minpass INT unsigned DEFAULT 1;

set minpass = (select minpassengernum from trip where tripid = new.tripid);

if new.cancelledYorN <> 'Y' then #new record and not cancelled

    call count_passenger(@passnum);

    if @passnum > minpass then

        update trip

```

```

        set confirmedYorN = 'Y'

        where tripid = new.tripid;

        call assign_bus (new.tripid, @passnum);

    end if;

end if;

end $$

delimiter ;

#---trigger 2: after customer cancelled one trip

DROP TRIGGER IF EXISTS update_tripstatus1;

delimiter $$

create trigger update_tripstatus1

after update on trippassenger #trigger-event: insert, update, delete

for each row

#trigger action

begin

if new.cancelledYorN = 'Y' then #cacelled record

    call count_passenger(@passnum);

    update trip

    set trip.confirmedYorN = 'N'

    where trip.tripid = new.tripid and @passnum < trip.minpassengernum;

end if;

end $$

delimiter ;

#---trigger 3: after trip passenger record delete

```



```

DROP TRIGGER IF EXISTS update_tripstatus2;

delimiter $$

create trigger update_tripstatus2

after delete on trippassenger #trigger-event: insert, update, delete

for each row #for each row have been deleted

#trigger action

begin

if old.cancelledYorN <> 'Y' then #if cancelled record is valid

    call count_passenger(@passnum);

    update trip

    set trip.confirmedYorN = 'N'

    where trip.tripid = old.tripid and @passnum < trip.minpassengernum;

end if;

end $$

delimiter ;

use rallybus;

```

```

##before testing, clear data

SET SQL_SAFE_UPDATES = 0;

delete from trippassenger

where 1=1;

delete from tripbus

where 1=1;

```

```
delete from tripdriver
```

```
where 1=1;
```

```
SET SQL_SAFE_UPDATES = 1;
```

```
#test for trigger one
```

```
insert into trippassenger(tripid,userid)
```

```
values(2,1),(2,2),(2,3),(2,4),(2,5),(2,6),(2,7),(2,8),(2,9),(2,10),(2,11),(2,12);
```

```
#test for trigger two
```

```
update trippassenger
```

```
set cancelledYorN = 'Y'
```

```
where userid in (13,12,11,10,9,8);
```

```
#test for trigger three
```