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Use the following tables to design and implement the Pomona Transit System using any database product and JDBC.

Trip (TripNumber, StartLocationName, DestinationName)

TripOffering (TripNumber, Date, ScheduledStartTime, SecheduledArrivalTime, DriverName, BusID)

Bus (BusID, Model, Year)

Driver(DriverName, DriverTelephoneNumber)

Stop (StopNumber, StopAddress)

ActualTripStopInfo (TripNumber, Date, ScheduledStartTime, StopNumber, SecheduledArrivalTime, ActualStartTime, ActualArrivalTime, NumberOfPassengerIn, NumberOf PassengerOut)

TripStopInfo (TripNumber, StopNumber, SequenceNumber, DrivingTime)

Images of data in database before tests:

ActualTripStopInfo

	TripNumber	Date	ScheduledStartTime	StopNumber	ScheduledArrivalTime	ActualStartTime	ActualArrivalTime	NumberOfPassengerIn	NumberOfPassengerOut
▶	1	2021-05-14	1:15PM	1	1:25PM	1:20PM	1:30PM	5	4
	2	2021-05-15	1:00PM	1	1:15PM	1:05PM	1:20PM	10	10
	3	2021-05-17	1:15PM	2	1:25PM	1:15PM	1:25PM	5	6
	4	2021-05-23	1:30PM	1	1:40PM	1:35PM	1:45PM	5	5
	5	2021-05-15	1:10PM	1	1:20PM	1:20PM	1:20PM	6	4
★	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Bus

	BusID	Model	Year
▶	1	A	2016
	2	B	2018
★	NULL	NULL	NULL

Driver

	DriverName	DriverTelephoneNumber
▶	Bill	626 123 4567
	Bob	909 123 4567
★	NULL	NULL

Stop

	StopNumber	StopAddress
▶	1	CPP Front
	2	Stop A
	3	Stop B
	4	3801 W Temple Ave, Pomona, CA 91768
✱	NULL	NULL

Trip

	TripNumber	StartLocationName	DestinationName
	1	Stop A	CPP Front
	2	Stop B	CPP Front
	3	CPP Front	Stop A
	4	Stop A	CPP Front
▶	5	Stop B	Stop A
✱	NULL	NULL	NULL

TripOffering

	TripNumber	Date	ScheduledStartTime	ScheduledArrivalTime	DriverName	BusID
▶	1	2021-05-14	1:15PM	1:10PM	Bill	1
	2	2021-05-15	1:00PM	1:15PM	Bob	2
	3	2021-05-17	1:15PM	1:25PM	Bill	1
	4	2021-05-23	1:30PM	1:40PM	Bill	1
	5	2021-05-15	1:10pm	1:20PM	Bill	2
✱	NULL	NULL	NULL	NULL	NULL	NULL

TripStopInfo

	TripNumber	StopNumber	SequenceNumber	DrivingTime
▶	1	1	1	10m
	2	1	2	15m
	3	2	3	10m
	4	1	4	10m
	5	1	5	10m
✱	NULL	NULL	NULL	NULL

The system should deal with at least the following transactions:

1. Display the schedule of all trips for a given StartLocationName and Destination Name, and Date. In addition to these attributes, the schedule includes: Scheduled StartTime, ScheduledArrivalTime , DriverID, and BusID.

```

Main Menu
~~~~~
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
~~~~~
Please insert an option: 1
~~~~~

Display Schedule
~~~~~
Please enter a Start Location: Stop A
Please enter a Destination: CPP Front
Please enter a Date in YYYY-MM-DD format: 2021-05-14
Schedule Start Time: 1:15PM
Schedule Arrival Time: 1:10PM
Driver Name: Bill
BusID: 1
~~~~~
```

2. Edit the schedule i.e., edit the table of Trip Offering as follows:

-Delete a trip offering specified by Trip#, Date, and ScheduledStartTime;

```
Main Menu
*****
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
*****
Please insert an option: 2
*****

Editing Schedule
*****
Edit Schedule Menu
*****
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip
*****
Please insert an option: 1
Please enter Trip #: 5
Please enter Date: 2021-05-15
Please enter Scheduled Start Time: 1:10PM
Trip successfully deleted
*****
Continue editing? (Y/N): n

Edit Schedule Menu
*****
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip
*****
Please insert an option: 2
```

Data in TripOffering after deleting

	TripNumber	Date	ScheduledStartTime	ScheduledArrivalTime	DriverName	BusID
▶	1	2021-05-14	1:15PM	1:10PM	Bill	1
	2	2021-05-15	1:00PM	1:15PM	Bob	2
	3	2021-05-17	1:15PM	1:25PM	Bill	1
	4	2021-05-23	1:30PM	1:40PM	Bill	1
*	NULL	NULL	NULL	NULL	NULL	NULL

-Add a set of trip offerings assuming the values of all attributes are given (the software asks if you have more trips to enter);

```

Edit Schedule Menu
~~~~~
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip
~~~~~

Please insert an option: 2
Please enter Trip #: 5
Please enter Date in YYYY-MM-DD format: 2021-05-16
Please enter Scheduled Start Time: 5:00PM
Please enter Scheduled Arrival Time: 5:10PM
Please enter Driver's Name: Bill
Please enter BusID: 1
Trip successfully added
~~~~~

Insert more trips? (Y/N): y

Please enter Trip #: 6
Please enter Date in YYYY-MM-DD format: 2021-05-17
Please enter Scheduled Start Time: 4:00PM
Please enter Scheduled Arrival Time: 4:10PM
Please enter Driver's Name: Bob
Please enter BusID: 2
Trip successfully added
~~~~~

Insert more trips? (Y/N): n

~~~~~

Continue editing? (Y/N): y

Edit Schedule Menu
~~~~~
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip

```

Data in TripOffering after insertions

	TripNumber	Date	ScheduledStartTime	ScheduledArrivalTime	DriverName	BusID
▶	1	2021-05-14	1:15PM	1:10PM	Bill	1
	2	2021-05-15	1:00PM	1:15PM	Bob	2
	3	2021-05-17	1:15PM	1:25PM	Bill	1
	4	2021-05-23	1:30PM	1:40PM	Bill	1
	5	2021-05-16	5:00PM	5:10PM	Bill	1
	6	2021-05-17	4:00PM	4:10PM	Bob	2
*	NULL	NULL	NULL	NULL	NULL	NULL

- Change the driver for a given Trip offering (i.e., given TripNumber, Date, ScheduledStartTime);

```

Edit Schedule Menu
=====
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip
=====
Please insert an option: 3
Please enter Trip #: 5
Please enter Date in YYYY-MM-DD format: 2021-05-16
Please enter Scheduled Start Time: 5:00PM
Please enter the new driver's name for this trip: Bob
Trip successfully updated
=====
Continue editing? (Y/N): n

```

Data in TripOffering after changing DriverName

	TripNumber	Date	ScheduledStartTime	ScheduledArrivalTime	DriverName	BusID
▶	1	2021-05-14	1:15PM	1:10PM	Bill	1
	2	2021-05-15	1:00PM	1:15PM	Bob	2
	3	2021-05-17	1:15PM	1:25PM	Bill	1
	4	2021-05-23	1:30PM	1:40PM	Bill	1
	5	2021-05-16	5:00PM	5:10PM	Bob	1
	6	2021-05-17	4:00PM	4:10PM	Bob	2
✱	NULL	NULL	NULL	NULL	NULL	NULL

- Change the bus for a given Trip offering.

```

Edit Schedule Menu
=====
1) Delete a trip offering
2) Add a set of trip offerings
3) Change the driver for a trip
4) Change the bus for a trip
=====
Please insert an option: 4
Please enter Trip #: 5
Please enter the new BusID for this trip: 2
Trip successfully updated
=====
Continue editing? (Y/N): n

```

Data in TripOffering after changing

	TripNumber	Date	ScheduledStartTime	ScheduledArrivalTime	DriverName	BusID
▶	1	2021-05-14	1:15PM	1:10PM	Bill	1
	2	2021-05-15	1:00PM	1:15PM	Bob	2
	3	2021-05-17	1:15PM	1:25PM	Bill	1
	4	2021-05-23	1:30PM	1:40PM	Bill	1
	5	2021-05-16	5:00PM	5:10PM	Bob	2
	6	2021-05-17	4:00PM	4:10PM	Bob	2
*	NULL	NULL	NULL	NULL	NULL	NULL

3. Display the stops of a given trip (i.e., the attributes of the table **TripStopInfo**).

```
Main Menu
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
Please insert an option: 3
1) Display all stops
2) Display stop of a given trip
3) Display the actual trip stop info
Please insert an option: 1
Trip Number: 1
Stop Number: 1
Sequence Number: 1
Driving Time: 10m
Trip Number: 2
Stop Number: 1
Sequence Number: 2
Driving Time: 15m
Trip Number: 3
Stop Number: 2
Sequence Number: 3
Driving Time: 10m
Trip Number: 4
Stop Number: 1
Sequence Number: 4
Driving Time: 10m

Main Menu
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
Please insert an option: 3
1) Display all stops
2) Display stop of a given trip
3) Display the actual trip stop info
Please insert an option: 2
Please enter trip #: 4
Trip Number: 4
Stop Number: 1
Sequence Number: 4
Driving Time: 10m
Exit the program? (Y/N): n
```


Main Menu

- ```

1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables

```

Please insert an option: 3

- ```

1) Display all stops
2) Display stop of a given trip
3) Display the actual trip stop info

```

Please insert an option: 3

```

-----
Trip Number: 1
Date: 2021-05-14
Start Time: 1:15PM
Stop Number: 1
Arrival Time: 1:25PM
Actual Start Time: 1:20PM
Actual Arrival Time: 1:30PM
Number of Passengers In: 5
Number of Passengers Out: 4

```

```

-----
Trip Number: 2
Date: 2021-05-15
Start Time: 1:00PM
Stop Number: 1
Arrival Time: 1:15PM
Actual Start Time: 1:05PM
Actual Arrival Time: 1:20PM
Number of Passengers In: 10
Number of Passengers Out: 10

```

```

-----
Trip Number: 3

```

4. Display the weekly schedule of a given driver and date.

```

Main Menu
~~~~~
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
~~~~~
Please insert an option: 4
~~~~~

Displaying Driver's Schedule
~~~~~
Please enter the driver's name: Bill
Please enter Date in YYYY-MM-DD format: 2021-05-14
-----
Date: 2021-05-14
Scheduled Start Time: 1:15PM
ScheduledArrivalTime: 1:10PM
-----
Date: 2021-05-17
Scheduled Start Time: 1:15PM
ScheduledArrivalTime: 1:25PM
-----
Date: 2021-05-23
Scheduled Start Time: 1:30PM
ScheduledArrivalTime: 1:40PM
~~~~~
Exit the program? (Y/N): n

```

5. Add a drive.

```

Main Menu
=====
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
=====
Please insert an option: 5
=====

Adding a New Driver
=====
Enter the new driver's name:
Charlie
Enter the new driver's telephone number:
626 123 1234

New Driver Details:
Driver Name: Charlie
Driver's Telephone Number: 626 123 1234

Is the data printed above correct? (Please enter number)
1. Yes
2. No
1

Bus successfully added

=====
Exit the program? (Y/N): n

```

Driver data after insertion

	DriverName	DriverTelephoneNumber
▶	Bill	626 123 4567
	Bob	909 123 4567
	Charlie	626 123 1234
*	NULL	NULL

6. Add a bus.

```

Main Menu
~~~~~
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
~~~~~
Please insert an option: 6
~~~~~

Adding a New Bus
~~~~~
Enter the new bus ID:
3
Enter the new bus Model:
C
Enter the new bus Year:
1997

New Bus Details:
Bus ID: 3
Bus Model: C
Bus Year: 1997

Is the data printed above correct? (Please enter number)
1. Yes
2. No
1

Bus successfully added

~~~~~
Exit the program? (Y/N): n

```

Data in bus after insertion

	BusID	Model	Year
▶	1	A	2016
	2	B	2018
	3	C	1997
*	NULL	NULL	NULL

7. Delete a bus.

```

Main Menu
~~~~~
1) Display Schedule
2) Edit Schedule
3) Display stops of a trip
4) Display weekly schedule of a driver
5) Add a driver
6) Add a bus
7) Delete a bus
8) Record data of a trip
9) Print tables
~~~~~
Please insert an option: 7
~~~~~

Deleting Bus
~~~~~
Enter Bus ID of bus you want to delete:
3

The Bus ID of the Bus that will be deleted: 3

Is the data printed above correct? (Please enter number)
1. Yes
2. No
1

Bus successfully deleted

~~~~~
Exit the program? (Y/N): n

```

Data in Bus after deletion

	BusID	Model	Year
▶	1	A	2016
	2	B	2018
*	NULL	NULL	NULL

8. Record (insert) the actual data of a given trip offering specified by its key. The actual data include the attributes of the table **ActualTripStopInfo**.

- 1) Display Schedule
- 2) Edit Schedule
- 3) Display stops of a trip
- 4) Display weekly schedule of a driver
- 5) Add a driver
- 6) Add a bus
- 7) Delete a bus
- 8) Record data of a trip
- 9) Print tables

~~~~~

Please insert an option: 8

~~~~~

Recording Trip Data

~~~~~

Trip Number: 6

Date (Please use YYYY-MM-DD format): 2021-05-18

Scheduled Start Time: 4:10PM

Stop Number: 2

Scheduled Arrival Time: 4:20PM

Actual Start Time: 4:10PM

Actual Arrival Time: 4:21PM

Number of Passengers in: 8

Number of Passengers out: 6

#### Trip Data:

Trip Number: 6

Date: 2021-05-18

Scheduled Start Time: 4:10PM

Stop Number: 2

Scheduled Arrival Time: 4:20PM

Actual Start Time: 4:10PM

Actual Arrival Time: 4:21PM

Passengers in: 8

Passengers out: 6

Is the data printed above correct? (Please enter number)

1. Yes

2. No

1

Trip data successfully recorded

### Data in ActualTripStopInfo

|   | TripNumber | Date       | ScheduledStartTime | StopNumber | ScheduledArrivalTime | ActualStartTime | ActualArrivalTime | NumberOfPassengerIn | NumberOfPassengerOut |
|---|------------|------------|--------------------|------------|----------------------|-----------------|-------------------|---------------------|----------------------|
| ▶ | 1          | 2021-05-14 | 1:15PM             | 1          | 1:25PM               | 1:20PM          | 1:30PM            | 5                   | 4                    |
|   | 2          | 2021-05-15 | 1:00PM             | 1          | 1:15PM               | 1:05PM          | 1:20PM            | 10                  | 10                   |
|   | 3          | 2021-05-17 | 1:15PM             | 2          | 1:25PM               | 1:15PM          | 1:25PM            | 5                   | 6                    |
|   | 4          | 2021-05-23 | 1:30PM             | 1          | 1:40PM               | 1:35PM          | 1:45PM            | 5                   | 5                    |
|   | 5          | 2021-05-15 | 1:10PM             | 1          | 1:20PM               | 1:20PM          | 1:20PM            | 6                   | 4                    |
|   | 6          | 2021-05-18 | 4:10PM             | 2          | 4:20PM               | 4:10PM          | 4:21PM            | 8                   | 6                    |
| • | NULL       | NULL       | NULL               | NULL       | NULL                 | NULL            | NULL              | NULL                | NULL                 |

Test your program using several test data for the above transactions.

Please submit a hard copy of your program and a printout of all test data and its output in a large envelope.