RIT | Golisano College of Computing and Information Sciences
School of Information

ISTE-722 Database Connectivity and Access
Practice Exercise 3 - Data Retrieval

Assignment Purpose: Practice writing generic code.

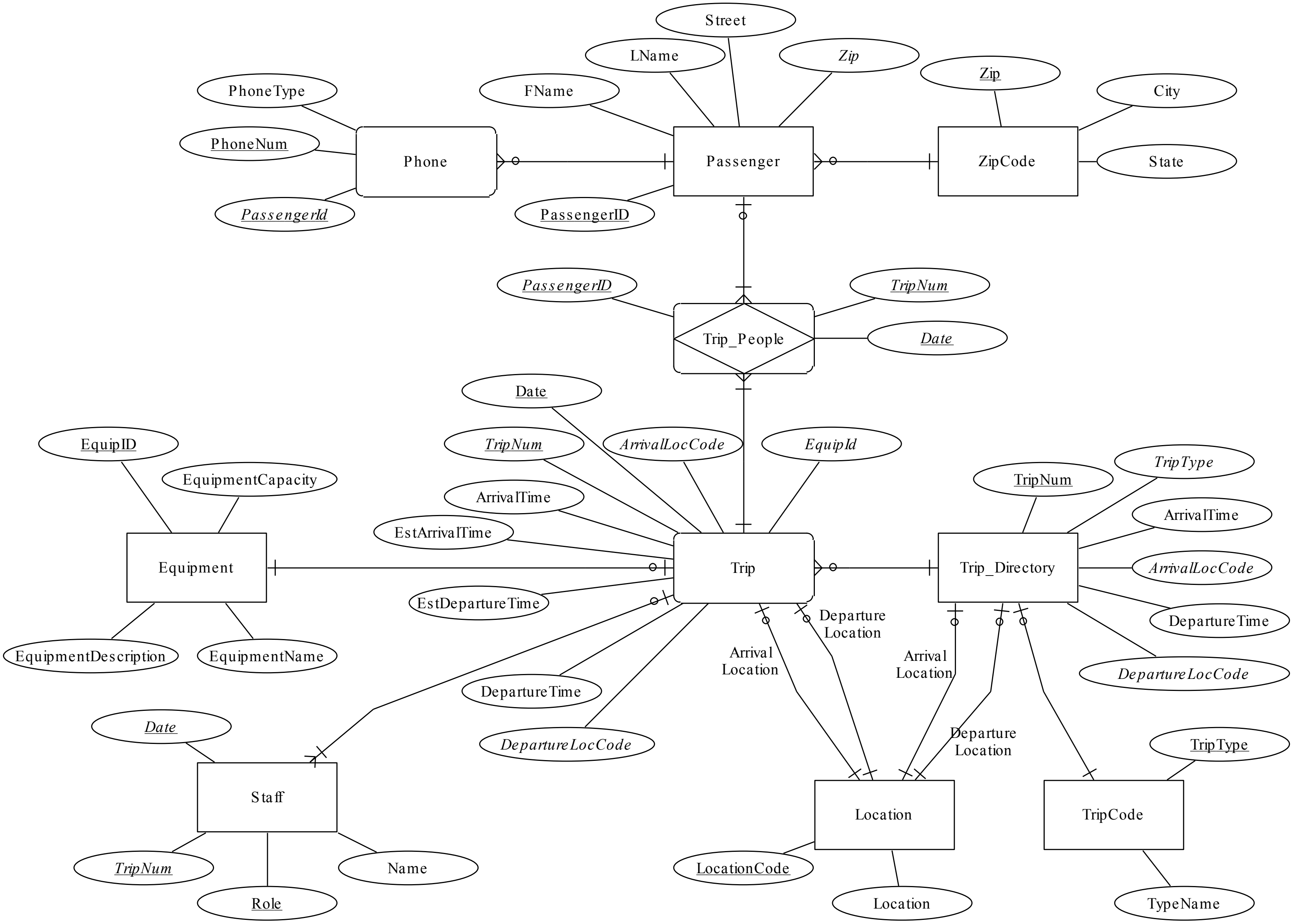
1. Modify your database class that contains *connect* and *close* from PE2 as follows:
    a. Add a method named getData that accepts an SQL string and the number of fields[1]
        i. getData should perform the query that was passed in, then convert the ResultSet (or RecordSet) into a simple 2-d ArrayList (or similar structure if using a language other than Java)
    b. Add a method named setData that accepts an SQL string and returns a Boolean. This will be used for doing "UPDATE", "DELETE", and "INSERT" operations
        i. setData should perform the query that was passed
        ii. If the query runs successfully, setData should return the number of records affected, otherwise any errors should return -1
2. To represent and store contents of the EQUIPMENT table, create a data layer class named "Equipment"
    a. Provide attributes that mirror the Equipment table
    b. Provide a default constructor
    c. Provide a constructor that accepts and sets the equipmentId
    d. Provide a constructor that accepts and sets all attributes
    e. Provide accessors and mutators for all attributes
    f. Provide public methods named "fetch", "put", "post", and "delete". These methods will interact between the object's attributes and the database, using the methods in the database class
        i. fetch will use the object's equipmentId attribute and the Database class' getData method to retrieve the database values for that particular equipmentId and update the object's attributes
        ii. put will update the database values, for that object's equipmentId, using all the object's attribute values
        iii. post will insert the object's attribute values into the database as a new record
        iv. delete will remove from the database any data corresponding to the object's equipmentId

3. Write a "main" class that:
    a. Instantiates the equipment data object, sets its equipmentId, calls the data object's fetch method, and then displays the values to the user
    b. Create a new equipment object setting all attributes to new values. Use post to insert a new record, then print out how many records were inserted

[1] Specify the number of fields. Do NOT use metadata, we will learn about metadata in a few weeks and change getData().

c. Use mutators to change the equipment capacity attribute, and use put to update the record, then printing how many records were updated
d. Use the fetch method and display the inserted information to the user
e. Use the delete method to remove the record from the database, printing how many records were deleted
f. Use the fetch method for this equipmentId to show a user-friendly message when no data is retrieved

Grading: Do NOT use metadata. Using metadata is -10 points.


Street
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Trip_People
Date
Date
TripNum
ArrivalLocCode
EquipId
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Equipment
Trip
Trip_Directory
ArrivalLocCode
EstDepartureTime
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