

You own a marina with a number of boats. You rent these boats on an hourly basis to customers. You are modeling boat rentals using a database. Each piece of customer data is kept in the CUSTOMER table. The rental data is kept in the BOATRENTAL table.

- (1) (Suggested Time: 15 minutes) 25 points: Construct a database in MS Access with TWO tables ---CUSTOMER and BOATRENTAL. The columns (attributes) for each table are shown below. While constructing the database, define each column as number (integer or long integer), text, currency or date as follows:

CUSTOMER

- CustNum – Long Integer, primary key (Indicates the customer number)
- CustName – Text, 50 characters (This stores the customer name)
- CustCity – Text, 25 characters (This stores the customer city)
- CustState – Text, 2 characters (This stores the customer state)

BOATRENTAL

- RentalId – Long Integer, primary key (This is the rental id number)
- BoatName – Text, 50 characters (Name of the boat that was rented)
- RentalDate – Date/Time (This stores the rental date)
- CostPerHour – Currency (This stores the rental cost per hour)
- NumHours – Integer (Number of hours for which boat was rented)
- CustNum – Long Integer, foreign key (Customer who rented the boat)

- (2) (Suggested Time: 5 minutes) 15 points: Establish the primary key foreign key relationships among these tables.

- (3) (Suggested Time: 10 minutes) 15 points

Add at least FIVE rows of data each to the CUSTOMER table and TEN rows to the BOATRENTAL table. *Note: The last names of customers you added should match your last name (first names should be different).*

- (4) (Suggested Time: 16 minutes) 45 points

Construct the following queries:

- Query 1: Show the following data: RentalId, BoatName, RentalDate, CostPerHour, NumHours, CustName, RentalCost. RentalCost should be computed as $(\text{CostPerHour} * \text{NumHours})$. Show the results in descending order of RentalCost.
- Query 2: Show the following data: CustName, Total(RentalCost). See Query 1 on how to compute RentalCost. Your query should add RentalCost by customer and for each customer and should show the total. Show the results in descending order of Total(RentalCost).
- Query 3: This is similar to Query 2 EXCEPT that you need to show the top 3 results in the descending order of RentalCost.
- Query 4: Write a query to update the city and state for Customer with CustNum=2 to “Kenosha” and “WI”, respectively.

Make sure you have sufficient data in the tables so that the above queries return meaningful results per query.

SUBMIT THE ACCESS FILE TO THE DROPBOX “EXAM 2 IN-CLASS ACCESS FOLDER”. IT CLOSSES AT 11:53 AM.