

**APT1050B: Database Management Systems**

**Lab Assignment #2: Summer 2022**

**Given on: 18th May 2022; Due: 8th June 2022**

## Instructor: Gerald Chege, PhD

**Maintaining a Motor Repair Shop Database**

Purpose: To demonstrate the ability to maintain a database using the open source MySQL database management system. The database has two tables namely Jobs and Customer.

Instructions: The structure for the Jobs table is shown in Table 1 and the data is shown in Table 2. The structure for the Customer table is shown in Table 3 and the data is shown in Table 4.

You will need MySQL for this Lab which is part of Xampp. Download Xamp from USIU Server using VPN. To get Xampp, navigate to 172.16.0.110/software/Xampp.

Execute the following tasks and submit the results by getting screen captures for relevant sections and placing them in a Word/pdf document and submit using the provided link in Blackboard.

**Table 1: Structure of the Jobs table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Field Size | Primary Key? | Description |
| Job ID | Text | 4 | Yes | Job number (primary key) |
| Customer ID | Text | 3 |  | Customer ID number |
| Job Description | Text | 25 |  | General job description |
| Job Status | Text | 1 |  | Status of complete (C) or incomplete (I) |
| Completion Date | Date/Time |  |  | Date job is to be completed |
| Quote | Currency |  |  | Customer’s cost for job |

**Table2: Data for the Jobs table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Job ID** | **Customer ID** | **Job Description** | **Job Status** | **Completion Date** | **Quote** |
| P234 | COM | Grill Work – 57 Chevy | I | 6/30/21 | 12000 |
| P435 | SPO | Rebuild Tran – 63 Merc | C | 5/12/20 | 16850 |
| A342 | SPO | Bumper Repair – 53 Nash | I | 9/21/21 | 3000 |
| A564 | PET | Valve Job – 66 Falcon | C | 4/15/21 | 6000 |
| P125 | TRA | Brake Drums – 59 Linc | I | 6/15/21 | 14000 |
| P854 | MEL | Re-paint – 29 Ford | C | 3/1/21 | 9570 |
| A585 | PET | Door Panels – 61 Falcon | C | 3/27/21 | 2000 |
| A448 | COM | Heater Repair – 53 Ford | I | 5/6/21 | 3600 |
| A687 | MEL | Repair Windshield – 56 PU | I | 7/22/21 | 3000 |
| P658 | OTT | Floor Boards – 61 Chevy | I | 9/30/21 | 15000 |
| A369 | OTT | Muffler – 65 LTD | I | 6/26/21 | 1500 |
| A227 | COM | Tie Rods – 68 GTO | C | 4/17/21 | 4100 |
| P593 | SPO | Shocks – 68 Pontiac | C | 7/21/21 | 5600 |
| A309 | MEL | Gas Tank – 74 Pinto | I | 8/16/21 | 3200 |
| A661 | PET | Trunk Deck – 61 Galaxy | C | 9/4/21 | 9800 |
| P293 | MEL | Overhaul – 73 LTD | C | 8/12/20 | 8900 |
| A419 | COM | Brake Cyl. – 70 Fairlane | I | 9/21/21 | 7900 |
| P871 | OTT | Muffler – 62 Corvette | I | 10/12/21 | 4800 |
| P411 | MEL | Tune Up – 61 Lincoln | C | 4/30/21 | 3900 |
| A821 | COM | Manifold – 27 P-Arrow | I | 10/16/21 | 2850 |

**Table 3: Structure of the Customer table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Field Size | Primary Key? | Description |
| CustomerID | Text | 3 | Yes | Customer number (primary key) |
| CustomerName | Text | 20 |  | Customer/Dealer name |
| ContactPerson | Text | 20 |  | Contact person |
| Phone | Text | 8 |  | Contact phone number |

**Table 4: Data for the Customer table**

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | CustomerName | ContactPerson | Phone |
| COM | Complete Auto Sales | Jim Mahinda | 455-3451 |
| SPO | Sports Car Emporium | Maria Mogaka | 455-6639 |
| PET | Pettys Antiques | Joe Ali Mohammed | 456-7877 |
| TRA | Travel All Auto | Shah Mukesh | 415-2258 |
| MEL | Mels Classic Car Lot | Peter Odoyo | 785-9111 |
| OTT | Ottos Old Autos | Janet Musyoki | 555-8890 |

* Create a new database to store the two tables related to the auto repair shop. Call the database Repair\_Shop.
* Create the Jobs table using the structure shown in Table 1. Make the JobID the primary key, no duplicates. Use the name Jobs for the table.
* Add the data shown in Table 2 to the Jobs table.
* *Save the Jobs table and screen-capture both its structure and data and paste into word.*
* Create the Customer table using the structure shown in Table 3. Make the CustomerID the primary key, no duplicates. Use the name Customer for the table.
* Create an appropriate relationship between the two tables
* Add the data shown in Table 4.
* *Save the Customer table and screen-capture both its structure and data and paste into word.*

Now add one record in the Customer table with your name and your particulars – this is mandatory.

1. Open the Repair Shop database and then open the Jobs table in Design view.

2. Create a single field index for the Customer ID field, allowing for duplicates.

3. Create a multiple field index using the Customer ID and the Job Description fields. Name this index CustIDDesc.

4. Save these changes and display the Jobs table in browse view.

5. Order the records in the Jobs table in ascending sequence by Job Description within Customer ID.

8. Add a field called Quote Date between the Completion Date and Quote fields. Define the field as Date/Time. This field will contain the date the quoted price was given.

9. Save these changes and display the Jobs table in Browser view.

10. Change the Job Description for Job ID A564 from Valve Job – 66 Falcon to Rebuild Trans – 61 Thunderbird.

11. Order the records by the Job Description within Customer ID.

12. Create and save the following validation rules for the Jobs table:

a. Assign a default value of I to the Job Status field.

b. Make Customer ID a required field.

c. Specify that the values for Quote must be greater than or equal to 100 and less than or equal to 10000.

For submission, capture screenshots of the relevant MySQL GUI view (either in design or data browser view) and paste into a word/pdf document then submit via the provided link in Blackboard by the stated date. You will find the said link inside the page pointed to by the Labs and Assignments link in the APT1050B course home page.

Remember a record containing your name is a mandatory requirement.

Any copied or shared work will result in fail.