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Report of Assignment2

DATABASE PGM USING JAVA - ITC-5201-RIA

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Functions	Description
Data Validation (Default)	To check if the input data is valid
Add New	To add new customer's information to the binary file
Update	To update the existing customer's information in the binary file
Search	To search customer's information by "Customer ID"
Display All	To show the information of all customers existing in the file

1. Insert Customer Information:

- The user can add the customer information in the library system application by using the "Add New" button. Valid information should be entered in the given fields and then "Add New" button is to be clicked.
 - No field accepts null values.
 - The customer id should be a five-digit integer.
 - The Name field accepts the first and the last name each starting with capital letter but trailing with lower case letters, with space in between. (Example: Sherlock Holmes)
 - The Phone field accepts 10-digit integer.
 - The email field only accepts valid email whereas the Postal Code accepts input in upper case.

The screenshot displays the 'Customer Management App' window. It features two main sections: 'Add/Update Customer' and 'Search by Customer ID'.

Add/Update Customer Section:

- Customer ID:** Input field with a red validation message: **Number from 1 to 99999*.
- Name:** Input field with a red validation message: **Full name with capitalizing*.
- Phone:** Input field with a red validation message: **10-digit number*.
- Email:** Input field with a red validation message: **xxx@xxx*.
- Postal Code:** Input field with a red validation message: **Upper case*.
- Buttons: 'Add New' and 'Update' at the bottom.

Search by Customer ID Section:

- Customer ID:** Input field.
- Buttons:** 'Search' and 'Display All'.
- Search Result:** A table with columns: ID, Name, Phone, Email, and Postal Code. A red hint message *(hint) ID example: 1, 25, 99999* is displayed above the table.

Figure 1 Library System Application UI

Customer Management App

Add/Update Customer

Customer ID:

Name:

Phone:

Email:

Postal Code:

Please enter a 5-digit-number ID
 Please enter a full name with capitalizing
 Please enter a 10-digit phone number
 Please enter a valid Email
 Please enter a valid Postcode (e.g M4W 0B1)

Search by Customer ID

Customer ID:

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code

Figure 2 Validation Error for Add New/Update

- If a record with the same Customer ID already exists in the binary file, then the application prompts the user to use the “Update” button instead.

Customer Management App

Add/Update Customer

Customer ID:

Name:

Phone:

Email:

Postal Code:

Customer already exists! Please use Update

Search by Customer ID

Customer ID:

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code

Figure 3 Trying to add customer whose info already exists

- On successful addition of the customer information on the binary file, a success message will be seen.

Customer Management App

Add/Update Customer

Customer ID: 10000

Name: Kaiyan Chen

Phone: 6471111111

Email: kc@gmail.com

Postal Code: M4W0B1

Success!

Search by Customer ID

Customer ID: Search Display All

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code
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Add New Update

Figure 4 Success on Add New

2. Update:

- The user should use the “Update” button to update an existing record.
- An existing record can be found if the Customer id is known.
- If a record with the entered Customer Id is not found or if the binary file is not found (when update command is used before the first ever “Add New” command press), then the application prompts to use the “Add” button instead.

Customer Management App

Add/Update Customer

Customer ID: 10001

Name: Kaiyan Chen

Phone: 6471111111

Email: kc@gmail.com

Postal Code: M4W0B1

Either customer or the file doesn't exist. Please try add!

Search by Customer ID

Customer ID: Search Display All

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code
----	------	-------	-------	-------------

Add New Update

Figure 5 File or Customer Doesn't Exist for Update

- A success message is displayed on successful update operation of the customer record.

Customer Management App

Add/Update Customer

Customer ID: 10000

Name: Kaiyan Chen

Phone: 6470000000

Email: kc@gmail.com

Postal Code: M4W0B1

Success!

Add New Update

Search by Customer ID

Customer ID: 10000 Search Display All

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code
----	------	-------	-------	-------------

Figure 6 Success on Update

3. [Search](#):

- The user can search for the customer whose information exists in the file using the “Search by Customer Id” section.
- To search for an existing record, the user must enter the customer id in the “Customer ID” text field and click the “Search” button.
- If a record exists, then it is displayed in the “Search Result” table otherwise empty record is seen.

Customer Management App

Add/Update Customer

Customer ID: 10000

Name: Kaiyan Chen

Phone: 6470000000

Email: kc@gmail.com

Postal Code: M4W0B1

Success!

Add New Update

Search by Customer ID

Customer ID: 10000 Search Display All

(hint) ID example: 1, 25, 99999

Search Result

ID	Name	Phone	Email	Postal Code
10000	Kaiyan Chen	6470000000	kc@gmail.c...	M4W0B1

Figure 7 A record is successfully searched

Customer Management App

Add/Update Customer

Customer ID: 10000

Name: Kaiyan Chen

Phone: 6470000000

Email: kc@gmail.com

Postal Code: M4W0B1

Success!

Search by Customer ID

Customer ID: 10001 **Search** **Display All**

Search Result

ID	Name	Phone	Email	Postal Code

Add New **Update**

Figure 8 No record is found on search

4. Display All:

- The “Display All” button is used to display all the customer information from the binary file.

Customer Management App

Add/Update Customer

Customer ID: 10002

Name: Jaydenn Chang

Phone: 6470000002

Email: jc@gmail.com

Postal Code: M4W0B1

Success!

Search by Customer ID

Customer ID: **Search** **Display All**

Search Result

ID	Name	Phone	Email	Postal Code
10000	Kaiyan Chen	6470000000	kc@gmail.c...	M4W0B1
10001	Simul Bista	6470000001	sb@gmail.c...	M4W0B1
10002	Jaydenn C...	6470000002	jc@gmail.com	M4W0B1

Add New **Update**

Figure 9 Display all the records in the UI