

This manual is intended to be used with the Library Database and Procedures. This manual will detail how each procedure can be tested. Prior to testing any procedure the user must first run two .sql documents to create and populate the database.

Login Procedure: The login procedure will allow a card holder with a valid card number and password access to their online library account. To test the procedure the user will need to do the following:

1. Open the procedure document Login.sql.
2. Run the entire document.
3. The user will be prompted to 'Enter a card member number.' For which the user may use any of the card number available in the card column of the Lib_members table.
4. Then the user will be prompted to 'Enter a card member password.' For which the user may only use the password corresponding to the valid card number entered from the Lib_members table. This password can be found in the password column of the Lib_members table.
5. If the card number and the corresponding password can be found in the Lib_members table then they are deemed valid and the user will view a 'Login successful' message.
6. If the card number or the corresponding password cannot be found then the user will see the following message, 'Enter valid user name or password.'.

Acceptable Inputs for Login Procedure:

Table 1: Login Procedure Input

| card | mem_pswrd |
|------|-------------------------------|
| 1 | iloveacapela |
| 2 | dundermifflin4life |
| 3 | nodwight |
| 4 | beetsbearsbatlestargallactica |
| 5 | chili |

*Table 1: Acceptable card number and
passowrd combinationd for Login*

Exception Handling for Login Procedure:

No_data_found Exception – this exception will be raised when the entered card number cannot be found in the card column of the Lib_members table. This exception will also be raised when the entered password does not correspond to the entered card number. This exception will cause the procedure to end and print the message, 'Enter valid user name or password.', will be printed for the user.

Others Exception – this exception will be raised when the procedure encounters an undefined error. The exception will end the procedure and print, 'Please could not be completed', for the user.

Overview SQL and Java Procedure: The overview procedure will allow a user to view the general info of a card member stored in the Lib_members database. The procedure takes a card number and if it is valid it prints the full name, phone number and DOB of the member.

To test the procedure using SQL developer the user will need to do the following:

1. Open procedure document Overview.sql
2. Run the entire procedure
3. The user will be prompted to 'Enter Customer Number.'. The user may enter any card number present in the card column of the Lib_Members table.
4. If the card number entered is valid the procedure will print the full name, phone number and DOB corresponding to the card number(*Table 2.2*)
5. If the card number is invalid the procedure will print, 'Enter a valid customer number.'.

Acceptable Inputs for SQL Overview Procedure and Possible Output:

Table 2

Overview Procedure Input
card number

1
2
3
4
5

Table 2: Acceptable card number input for Overview

Table 2.2

Correct Overview Output

Member Name: kevin Malone
Phone: 773-555-5555
DOB: 01-APR-77

Table 2.2: Overview Procedure Output with valid input

Exception Handling for SQL Overview Procedure:

No_data_found Exception – this exception will be raised when the entered card number cannot be found in the card column of the Lib_members table. This exception will cause the procedure to end and print the message, 'Enter valid user name or password.', for the user.

Others Exception – this exception will be raised when the procedure encounters an undefined error. The exception will end the procedure and print, 'Please could not be completed', for the user.

To test the procedure using SQL developer the user will need to do the following:

1. Open overview.java file
2. Run the entire class
3. Enter DePaul Username and Password
4. Enter card number from table 2
5. If the card number entered is valid the procedure will print the full name, phone number and DOB corresponding to the card number(*Table 2.2*)
6. If the card number is invalid the class will skip to the exception handler and end.

Exception Handling for SQL Overview Procedure:

IOException – This exception will be raised the class runs into an error while trying to find the card number in the lib_members database.

Rent Procedure: The Rent procedure allows an employee to rent a book. It does this by asking a user for a card number of the borrower and the isbnb of the book being borrowed. If both values are valid it then takes this information along with the current date and due date and creates a record in the Lib_rentals table with a unique id. To use this procedure the user will need to do the following:

1. Open the procedure document rent.sql.
2. Run the entire procedure.
3. The user will be prompted to, 'Enter a card number.'. The user may enter any of the card numbers listed in the card column of the Lib_members table.
4. The user will then be prompted to, 'Enter a book isbnb'. The user may enter the isbnb of any book listed in the isbnb column of the Lib_books table.
5. If both the card number and the book isbnb are valid then the procedure will create a new record, enter it into the Lib_rentals table, and print, the title along with the due date for the user.
6. If either the card number or the user are not valid, the procedure will print, 'Enter valid card number and book isbnb.'.

Acceptable Rent Procedure Input

Table 3

Rent Procedure Input

| card number | isbnb |
|-------------|---------------|
| 1 | 111-1111-1111 |
| 2 | 222-2222-2222 |
| 3 | 333-3333-3333 |
| 4 | 444-4444-4444 |
| 5 | 555-5555-5555 |
| | 666-6666-6666 |
| | 777-7777-7777 |
| | 888-8888-8888 |
| | 111-1111-4444 |
| | 999-9999-9999 |
| | 111-1111-2222 |
| | 111-1111-3333 |
| | 111-1111-5555 |

Table 3 : Acceptable card and isbnb input for Rent Procedure

Exception Handling for Rent Procedure

No_data_found Exception – this exception will be raised when the entered card number cannot be found in the card column of the Lib_members table or if the entered isbnb cannot be found in the isbnb column of the Lib_books table.. This exception will cause the procedure to end and print the message, 'Enter valid user name or password.', for the user.

Others Exception – this exception will be raised when the procedure encounters an undefined error. The exception will end the procedure and print, 'Procedure could not be completed', for the user.

Return Procedure – the return procedure allows an employee to return a book that has been rented. The procedure asks for a card number and isbnb. If both are valid and the book is being returned on time the procedure will then remove the rental record from the Lib_rentals table. If the book is being returned past the due date a fee is automatically calculated. To use the procedure the user needs to do the following:

1. Open the procedure document rent.sql.
2. Run the entire procedure.
3. The user will be prompted to, 'Enter a card number.'. The user may enter any of the card numbers listed in the card column of the Lib_members table.
4. The user will then be prompted to, 'Enter a book isbnb'. The user may enter the isbnb of any book listed in the isbnb column of the Lib_books table.
5. If both the card number and the book isbnb are valid then the procedure will check if the book is being returned on time or if the book is late.
6. If the book is being returned on time the procedure removes the rental record from the Lib_rentals table and print, 'Book has been returned. Thank you.' For the user.
7. If the book is being returned past the due date the procedure calculates a late fee and prints a statement letting the user know the book is late and the fee incurred.
8. If invalid data is entered the procedure will skip to exception handling which will print, 'Enter a valid customer and book info.'.

Acceptable Return Procedure Input:

Table 4

**Acceptable return Procedure
Input for an ON TIME Return**

| card number | isbnb |
|-------------|---------------|
| 5 | 444-4444-4444 |
| 3 | 666-6666-6666 |

Table 4: Acceptable card and isbnb input for Procedure Input for on time return.

Table 4.2

**Acceptable return Procedure
Input for a LATE Return**

| card number | isbnb |
|-------------|---------------|
| 5 | 666-6666-6666 |

Table 4: Acceptable card and isbnb input for Procedure Input for a late return

Exception Handling for Rent Procedure

No_data_found Exception – this exception will be raised when the entered card number cannot be found in the card column of the Lib_members table or if the entered isbnb cannot be found in the isbnb column of the Lib_books table. This exception will cause the procedure to end and print the message, 'Enter valid user name or password.', for the user.

Others Exception – this exception will be raised when the procedure encounters an undefined error. The exception will end the procedure and print, 'Procedure could not be completed', for the user.