**COMP 3610 : Database Systems**

**Winter 2023**

**Activity #6– Stored Procedures/functions**

Objective:

To add automatic calculations of the fine.

In the schema used for your assignment#1 – (books, Patrons and Transactions), you also added

a column named as fine (numeric) in the transaction table. This is for storing the amount of fine paid by the patron when a book is returned late.

To do:

Q1. [10 marks]

Create a Procedure issueBook, where patron\_id and book\_id is taken as parameters.

issueBook(patron\_id, book\_id)

This function will run when the patron is coming to issue a book.

Steps:

Verify the patron\_id in the patron table

Verify the book\_id in the book table (not a reference book)

Insert the new row in transaction tale with

-patronid, book id, transactiondate as today, fine – 0 and rating as 1.

The transaction\_id should automatically generate using sequence

Q2. Create another procedure [10 marks]

returnBook(patron-Id, book\_id)

Create a procedure that should take in patron\_id and book\_id as parameters. The procedure will calculate the amount of fine due on the book.

This procedure will run when the patron is coming back to return the book.

Steps:

Read the tuple with the patron\_id and book\_id with type=1. Check the transaction date. Add 7 to that. If todays date > calculated date, calculate the fine.

Now insert the new row in transaction tale with

-patronid, book id, transactiondate as today, fine – as calculated and rating as 2.

The transaction\_id should automatically generate using sequence.

Q3. Convert returnBook into a function that will return the fine amount. [5 marks]

Q4. Create a procedure to display the details of all the books that have been issues in the month of February. [10 marks]