**This copy has a number of corrections a student found.**

**Check #3 has been changed**

**#6 please use barcode of ‘X123456789’ not ‘A123456789’**

**Check #7 has been changed**

**Check #8 has been changed**

**Check #9 has been changed**

**ALTER command has been changed ( genre\_id\_seq)**

**Homework 04**

CSS-475

John Chenault

Homework 04 Lecture 05

Db 03

CRUD Commands

Write the appropriate CRUD operations to perform the problems below.

Work independently.

Put your queries into a submission file per earlier instructions. Name the file ‘Homework.txt’

Goal

Give students practice in CRUD operations

Insert the following commands in your query file:

( required commands will be in RED )

BEGIN;

-- <STUDENT NAME>

-- #1

< Your Commands to perform the action>

-- #1 CheckQueries

<My #1 checkQuery commands >

-- #2

<Your commands to perform the action>

-- #2 CheckQueries

<My #2 CheckQuery commands? >

-- #3

< Your commands to perform the action>

*Etc . . .*

ROLLBACK;

ALTER SEQUENCE Genre\_id\_seq RESTART WITH 12;

ALTER SEQUENCE customer\_id\_seq RESTART WITH 102;

ALTER SEQUENCE Libcard\_id\_seq RESTART WITH 113;

ALTER SEQUENCE bookCat\_id\_seq RESTART WITH 1350;

NOTE – If your submission file modifies the DB such that later student’s submissions fail – you will lose 25% of the possible grade.

Do NOT hard code any surrogate keys unless the problem says that you may.

**CRUD operations begin here**

BEGIN;

-- <STUDENT NAME>

#1 – Perform a checkout on the book 0737494331 ( ‘War of the Worlds’) to library card 0028613547. Do not use a surrogate key in any of your statements. You may use the default for the date fields in the corecord ( or enter in your own date)

**Check Queries**

\qecho Check #1

SELECT count (\*) as "numCheckedOut"

FROM Corecord

WHERE corecord.libcardid = ( SELECT id FROM libcard WHEREbarcode = '0028613547')

;

SELECT count (\*) as "book count"

FROM book

WHERE book.barcode = '0737494331' AND book.liblocationid IS NULL;

#2– Check in the book you checked out in #1.

**Check Queries**

\qecho Check #2

SELECT count (\*) as numincart

FROM book

WHERE book.liblocationid = 5;

SELECT count (\*) as numCheckedOut

FROM corecord

WHERE libcardid = ( SELECT id from libcard where barcode = '0028613547')

AND cidate is not null;

#3 Add a new genre to the database

* The new type is “550 Fans”
* Return the ID ( surrogate key) for future calls in this question ( IE you may use the returned auto-generated key in this question)
* Associate any book with the word ‘green’ in the description to this genre
* Ignore case for the match IE ‘GreEnish’ would match.

You may use the surrogate primary key returned from the insert in your commands.

Use a single command to add the associations for all of the books that include ‘green’

3 Extra points to the first student who sends me email as to why green is associated with ‘550 Fans’

**Check Queries**

\qecho Check #3

SELECT \* from BookCatToGenre

WHERE BookCatToGenre.Genreid = 12

order by BookCatid;

#4 The library has decided that the SF Classic ‘Dune’ ( bookCat.ID = 576) promotes drug use. They want to remove all mention of the book anywhere in the database ( bookCat, book, genre, etc)

You may use the Surrogate key for the book ( 576) in your commands.

Hint – think about what to remove first.

**Check Queries**

\qecho Check #4

SELECT count (\*) as numcat

FROM bookCat

WHERE bookCat.id = 576;

SELECT count (\*) as numBook

FROM Book

WHERE bookcatid = 576;

#5 We want to create a new customer and their library card

* Customer info
  + firstName ‘George’
  + lastName ‘Spelvin’
  + email ‘[Pseudonum@gmail.com](mailto:Pseudonum@gmail.com)’
  + address ‘1234 Plain Street’
  + City ‘Rochester’
  + State ‘NY’
* Library Card
  + BarCode ‘B123456789’
  + Issue Date 1/15/2323

You may use the Surrogate PK of the created customer when you crate the library card record

**Check Queries**

\qecho Check #5

SELECT \*

FROM Customer

WHERE firstName = 'George' and lastName = 'Spelvin';

SELECT \*

FROM Libcard

WHERE libcard.customerid = 102;

#6 Georgina Spelvin has lost her library card. Deactivate the lost card and give her a new one.

You may do a query to get the surrogate ID for Georginia Spelvin and use that ID in your subsequent commands.

* Creation date for the new library card is 1/5/2023
* Barcode for new card is ‘X123456789’

**Check Queries**

\qecho Check #6

SELECT count (\*) as numlibcards

FROM Libcard;

SELECT count (\*) as numactivecards

FROM Libcard

WHERE isactive = true;

SELECT \*

FROM Libcard

WHERE customerid = 50 AND isactive;

#7 Add a new bookCatalog entry to the system.

* Title ‘A Stich in Time’
* Description ‘One Second’
* Isbn ‘183456789’
* Ddnum 482.123
* Genres ‘Thriller’ and ‘Romance’
* No Author

You may return the surrogate ID for the new entry to use in setting up Genre records

**Check Queries**

\qecho Check #7

SELECT count (\*) as "num Thriller"  
FROM bookcatToGenre

JOIN genre ON ( genre.id = bookCatToGenre.genreid)

WHERE genre.name ilike 'Thriller';

SELECT count (\*) as "num Romance"

FROM bookcatToGenre

JOIN genre ON ( genre.id = bookCatToGenre.genreid)

WHERE genre.name ilike 'Romance';

#8 For the bookCat you added in #7 – add three instances to the database of the book.

* Book barcodes are ‘C123456789', 'D123456789', 'E123456789'
* Location of books is in ‘Cart’
* You man NOT use the surrogate PK of the BookCat for this problem

**Check Queries**

\qecho Check #8

SELECT count (\*) as numNewBooks

FROM book

JOIN bookcat ON ( book.bookcatid = bookcat.id)

WHERE bookcat.isbn = ‘183456789';

#9 A water leak has damaged all of the books in the checkin cart. They have been moved to Repair.

Update the database to show that all books in the checking cart have been moved to repair. Use a single update statement.

**Check Queries**

\qecho Check #9

SELECT count (\*) as NumInRepair

FROM book

WHERE liblocationid = 3;

ROLLBACK;

ALTER SEQUENCE Genre\_id\_seq RESTART WITH 12;

ALTER SEQUENCE customer\_id\_seq RESTART WITH 102;

ALTER SEQUENCE Libcard\_id\_seq RESTART WITH 113;

ALTER SEQUENCE bookCat\_id\_seq RESTART WITH 1350;

**Expected Output**

Expected output from homework 5 ( for check queries)

Student Name

BEGIN

#1 Checkout book

INSERT 0 1

UPDATE 1

Check Queries

numCheckedOut

---------------

4

(1 row)

book count

------------

1

(1 row)

#2 Check in the same book

UPDATE 1

UPDATE 1

Check Queries

numincart

-----------

6

(1 row)

numcheckedout

---------------

1

(1 row)

#3 Add new genre and modify books with green to be in new genre

id

----

12

(1 row)

INSERT 0 1

INSERT 0 4

Check Queries

bookcatid | genreid

-----------+---------

521 | 11

704 | 11

800 | 11

836 | 11

(4 rows)

#4 Remove Dune records from the library

DELETE 3

DELETE 1

DELETE 1

DELETE 1

Check Queries

numcat

--------

0

(1 row)

numbook

---------

0

(1 row)

#5 Add a new customer and library card to the system

id

-----

102

(1 row)

INSERT 0 1

INSERT 0 1

Check Queries

id | firstname | lastname | email | address1 | address2 | city | stateid | postalcode

-----+-----------+----------+---------------------+-------------------+----------+-----------+---------+------------

102 | George | Spelvin | pseudonum@gmail.com | 1234 Plain Street | | Rochester | NY |

(1 row)

id | customerid | barcode | issuedate | isactive

-----+------------+------------+---------------------+----------

113 | 102 | B123456789 | 2323-01-15 00:00:00 | t

(1 row)

#6 Replace library card for Georgina Spelvin

id | firstname | lastname | email | address1 | address2 | city | stateid | postalcode

----+-----------+----------+-----------------------+-----------------+----------+---------+---------+------------

50 | Georgina | Spelvin | psudonum183@ghost.com | 1515 ghost lane | Apt 0 | spokane | WA |

(1 row)

UPDATE 1

INSERT 0 1

Check Queries

numlibcards

-------------

114

(1 row)

numactivecards

----------------

100

(1 row)

id | customerid | barcode | issuedate | isactive

-----+------------+------------+---------------------+----------

114 | 50 | X123456789 | 2023-01-05 00:00:00 | t

(1 row)

#7 Add a new book to catalog and associated tables

id

------

1350

(1 row)

INSERT 0 1

INSERT 0 2

Check Queries

num Thriller

--------------

154

(1 row)

num Romance

-------------

172

(1 row)

#8 Add 3 copies of "A stich in time" to the library

INSERT 0 3

Check Queries

numnewbooks

-------------

3

(1 row)

#9 Deal with leak in checkin cart.

UPDATE 6

Check Queries

numinrepair

-------------

25

(1 row)

ROLLBACK

ALTER SEQUENCE

ALTER SEQUENCE

ALTER SEQUENCE

ALTER SEQUENCE