CISA 1360 Programming Essentials

205 Lib Project

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1. Project description: 205 Lib is library application which helps librarian managed user and books.
2. Requisition:

|  |  |  |
| --- | --- | --- |
|  | Task name | Status |
| 1 | Connect Python to MS SQL Server | Done |
| 2 | Design User interface (command line) | Done |
| 3 | Design database | Done |

1. Database description:

Database name: Lib\_205

Number of tables: 2

Table 1: Borrowers (

BorrowerID int IDENTITY(-1,1) PRIMARY KEY,

FirstName varchar(255),

LastName varchar(255),

Password varchar(255),

Email varchar(255),

Payment float,

FavoriteGenre varchar(20),

);

Table 2: Librarians (

LibrarianID int IDENTITY(1,1) PRIMARY KEY,

FirstName varchar(255),

LastName varchar(255),

Password varchar(255),

Email varchar(255),

);

Table 2: Books(

BookID int IDENTITY(1,1) PRIMARY KEY,

BookName varchar(255),

Author varchar(255),

Genre varchar(255),

LateFee float,

BorrowDate date,

Lost int,

BorrowerID int FOREIGN KEY REFERENCES Lib\_User(UserID)

);

Details:

TABLE Borrowers:

BorrowerID is generated automatically from -1 increasing by 1( The book which BorrowerID is -1 means was lost)

The user who has all value is 0 is SYSTEM USER.

LoginName: email address

Email: '@' and '.' are required

TABLE Books:

BookID is generated automatically.

New/return book will be belong to SYSTEM USER.

Genre: Fiction, Fantasy, Classic, Comic

BorrowDate is current date if new inserted book, will be update

date again when user borrow it.

1. Default database:

* Librarians:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | FirstName | LastName | Password | Email |
| 1 | Ryan | Reynolds | Pa$$w0rd | rrey@my.bcit.ca |
| 2 | Ryan | Roy | Pa$$w0rd | Rrey2@my.bcit.ca |

* Borrowers:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | FirstName | LastName | Password | Email | FavoriteGenre |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Steve | Vo | Pa$$w0rd | dvo12@my.bcit.ca | Fiction |
| 2 | Indranil | Roy | Pa$$w0rd | iroy23@my.bcit.ca | Fiction |
| 3 | Andy | Khuu | Pa$$w0rd | akhuu@34@my.bcit.ca | Classic |
| 4 | Ram | Antig | Pa$$w0rd | [rantig45@my.bcit.ca](mailto:rantig45@my.bcit.ca) | Classic |
| 5 | Justin | Tong | Pa$$w0rd | Jtong56@my.bcit.ca | Comic |
| 6 | Bob | Yuan | Pa$$w0rd | Byuan67@my.bcit.ca | Comic |

* Books:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | BookName | Author | Genre | LateFee |
| 1 | American Dirt | Jeanine Cummins | Fiction | 10 |
| 2 | Bluestreak | Mike Klidjian | Fiction | 8 |
| 3 | Innocents | Michael Crummey | Fiction | 12 |
| 4 | The Summer Sand Pact | Jessie Newton | Fiction | 10 |
| 5 | Assassin | Andy Peloquin | Fantasy | 6 |
| 6 | Star Wars | Insight Editions | Fantasy | 9 |
| 7 | The Alchemist | Paulo Coelho | Fantasy | 15 |
| 8 | The Tuscan Secret | Italian handwritten | Fantasy | 8 |
| 9 | The Sandman | Neil Gaiman | Comic | 4 |
| 10 | Dog Man | Dav Pilkey | Comic | 5 |
| 11 | Attack on Titan | Hajime Isayama | Comic | 2 |
| 12 | Jujutsu Kaisen | Gege Akutami | Comic | 2 |

1. Functions of program:
   1. Create borrower account
   2. Borrower functions:
      1. Display all available books in library
      2. Display all borrowed books
      3. Display late return books
      4. Display total payment
      5. Borrow new book
      6. Return a book
      7. Report lost
   3. Librarian functions:
      1. Display all available books
      2. Create new book
      3. Create new librarian
      4. Delete a books
      5. List all lost books
2. Using apps/platforms:
   1. SQL server
   2. GitHub
   3. PyCharm
3. To do this project we applied:
   1. Loops/Branching/Lists
   2. Advance string process and format
   3. Functions
   4. Classes
   5. Inheritance
   6. Module
   7. Exceptions
4. Team member tasks:

|  |  |  |
| --- | --- | --- |
| No | Task Name | Member Name |
| 0 | Manage team | Steve Vo |
| 1 | Design Data base and setup connection to SQL server. | Steve Vo |
| 2 | Setup GitHub environment. | Steve Vo |
| 3 | Collect codes, re-touch codes, design workflow of the program. | Steve Vo |
| 4 | Create user/borrower account. |  |
| 5 | Display all available books. |  |
| 6 | Display all borrowed books. |  |
| 7 | Display late return books. |  |
| 8 | Display total payment. |  |
| 9 | Borrow new book. |  |
| 10 | Return a book. |  |
| 11 | Report lost. |  |
| 12 | Display all available books. |  |
| 13 | Create new book. |  |
| 14 | Create new librarian. |  |
| 15 | Delete a book. |  |
| 16 | List all lost books. |  |