

SOFTWARE SYSTEM DEVELOPMENT - Monsoon – 2024

Lab Activity 4 – SQL Stored Procedures and Cursors

Submission Due Date: 06/09/2024, 5.00 PM

IMPORTANT INSTRUCTIONS

1. This activity is an individual submission, NOT a group activity.
2. Submissions should be done via the Moodle only.
3. Each question carries 10 marks
4. Deadline mentioned during the Lab is strictly immutable. No extensions will be given.
5. Any naming convention mentioned in the lab activity must be followed strictly or marks may be deducted for the same.
6. Any plagiarized content will fetch zero marks for the current lab and will be followed by strict action against the students involved. However, discussion of ideas is allowed.
7. Submission Criteria:
 - Create a folder with your roll number as its name and containing the following files corresponding to the questions:
 - <roll_number>_q1_A.sql
 - <README.md
 - Compress the folder as a zip file (name should be roll_number.zip) and then upload it on the Moodle before deadline.
 - README.md should contain steps for execution of your script and any extra information that you want the evaluator to know before running your script, such as dependencies on some external tools or libraries.
 - For Example:
2023202010.zip
 - | 2023202010
 - | 2023202010_q1_A.sql
 - | 2023202010_q1_B.sql
 - | so on ...
 - | README.md

OTT Streaming Service Database

Schema:

- **Shows**

```
CREATE TABLE Shows (  
    ShowID INT PRIMARY KEY,  
    Title VARCHAR(100),  
    Genre VARCHAR(50),  
    ReleaseYear INT  
);
```

- **Subscribers**

```
CREATE TABLE Subscribers (  
    SubscriberID INT PRIMARY KEY,  
    SubscriberName VARCHAR(100),  
    SubscriptionDate DATE  
);
```

- **WatchHistory**

```
CREATE TABLE WatchHistory (  
    HistoryID INT PRIMARY KEY,  
    ShowID INT,  
    SubscriberID INT,  
    WatchTime INT, // DURATION  
    FOREIGN KEY (ShowID) REFERENCES Shows(ShowID),  
    FOREIGN KEY (SubscriberID) REFERENCES Subscribers(SubscriberID)  
);
```

Sample Data:

- **Shows**

```
INSERT INTO Shows (ShowID, Title, Genre, ReleaseYear) VALUES  
(1, 'Stranger Things', 'Sci-Fi', 2016),  
(2, 'The Crown', 'Drama', 2016),  
(3, 'The Witcher', 'Fantasy', 2019);
```

- **Subscribers**

INSERT INTO Subscribers (SubscriberID, SubscriberName, SubscriptionDate) VALUES

(1, 'Emily Clark', '2023-01-10'),

(2, 'Chris Adams', '2023-02-15'),

(3, 'Jordan Smith', '2023-03-05');

- **WatchHistory**

INSERT INTO WatchHistory (HistoryID, SubscriberID, ShowID, WatchTime) VALUES

(1, 1, 1, 100),

(2, 1, 2, 10),

(3, 2, 1, 20),

(4, 2, 2, 40),

(5, 2, 3, 10),

(6, 3, 2, 10),

(7, 3, 1, 10);

Questions:

1. Write a stored procedure for adding a new show to the database
2. Write a stored procedure to retrieve all the users
3. Write a stored procedure to show cumulative watch time of each user
4. Write a stored procedure to retrieve all the users using a cursor
5. Add a new 'AGE' column to the table 'Subscriber'. Write a stored procedure to update all the users a) without cursor b) with cursor