SouthWest University

Lab report

Couse name Fundamentals of Database Systems

Semester 2023 - 2024 - 2

Grade 2022 Class CS4

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| Lab 2 | |  | | | |
| Experimental types | | ☑validation experiment  □comprehensive experiment  □design experiment | | | |
| * Goal: * Practicing insert, update, delete and constraints * Create stored procedures (using various types of parameters) and verify their effectiveness. * Create functions and verify their effectiveness. * Practice using cursors. | | | | | |
| * Experimental contents and process. You should list the source code and screen shots showing the output results of your code. | | | | | |
| I did some random operation using Inner join and On.    Practicing using aggregation functions :    Using Union:    Adding aut0\_increment:  Creating view:      I inserted 2 tuples into table “Booktype”:    Then, I used insert command to insert a tuple in table “books”, with regard to foreign key:    By using create view, I created a view selecting two attributes from the table books:    By using update keyword, I updated an attribute.    Adding index to table ‘books’:    Adding a new trigger to table books:    Dropping a trigger:    Created a procedure:      An attempt to create and utilize a function:    I met some error when implementing:  Error Code: 1418. This function has none of DETERMINISTIC, NO SQL, or READS SQL DATA in its declaration and binary logging is enabled (you \*might\* want to use the less safe log\_bin\_trust\_function\_creators variable)  And these codes fixed the problem:  set global log\_bin\_trust\_function\_creators=TRUE;  This issue is caused by some mysql security settings.  When practicing using cursor, I met an issue that every fetch return NULL:    DROP PROCEDURE IF EXISTS GetRallyCount;  DELIMITER //  CREATE PROCEDURE GetRallyCount()  BEGIN  DECLARE done INT DEFAULT FALSE;  DECLARE rally\_count INT;  DECLARE cur CURSOR FOR SELECT rally\_count FROM matchrecord;  DECLARE EXIT HANDLER FOR NOT FOUND SET done = TRUE;    OPEN cur;    while done = False Do  FETCH cur INTO rally\_count;  SELECT rally\_count ;  END While;  CLOSE cur;    END //  DELIMITER ;  -- 调用  CALL GetRallyCount();  These are the codes and I’m still working on why.  Now I’ve figured it out. The new variable I defined cannot share the same name with any attribute, otherwise when declaring the cursor, the cursor will take in the value of the new variable instead of taking the values from the table.  These are the altered codes:  DROP PROCEDURE IF EXISTS GetRallyCount;  DELIMITER //  CREATE PROCEDURE GetRallyCount()  BEGIN  DECLARE done INT DEFAULT FALSE;  DECLARE rally\_count\_var INT;  DECLARE cur CURSOR FOR SELECT rally\_count FROM matchrecord;  DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;  OPEN cur;  select '?';  read\_loop: LOOP  FETCH cur INTO rally\_count\_var;  IF done THEN  LEAVE read\_loop;  END IF;  SELECT rally\_count\_var;  END LOOP;  CLOSE cur;  END //  DELIMITER ;  -- 调用  CALL GetRallyCount(); | | | | | |
| * Experimental summary and analysis.   In these weeks, I’ve learnt many operations about databases. I met many issues when doing the experiment, for example,  I met some error when implementing the use of funtions:  Error Code: 1418. This function has none of DETERMINISTIC, NO SQL, or READS SQL DATA in its declaration and binary logging is enabled (you \*might\* want to use the less safe log\_bin\_trust\_function\_creators variable)  And these codes fixed the problem:  set global log\_bin\_trust\_function\_creators=TRUE;  This issue is caused by some mysql security settings. This can also be fixed permanently by altering my.ini configuration file.  Besides, I also met other issues like failing to fetch data when using cursor. It turned out to be that I misunderstood the purpose of declaring a new variable and duplicated variable names caused ambiguities. | | | | | |
|  | Criteria | | | | scale |
| Goal | | | | A B C D E |
| Process | | | |
| Design | | | |
| Algorithm | | | |
| Code | | | |
| Data/Results | | | |
| Summary | | | |
| Written | | | |
| Score | |  | Tutor Signature：Quan Zou | |
| * Lab Evaluation Criteria   A: This lab is exceptional, working and meeting all of the specifications.The code is exceptionally well organized and very easy to follow.The code could be reused as a whole or each routine could be reused.The documentation is well written and clearly explains what the code is accomplishing and how.The program was delivered on time.The code is extremely efficient without sacrificing readability and understanding.  B: This lab is very good--works and produces the correct results and displays them correctly. It also meets most of the other specifications. The code is fairly easy to read. Most of the code could be reused in other programs. The documentation consists of embedded comment and some simple header documentation that is somewhat useful in understanding the code. The program was delivered within a week of the due date. The code is fairly efficient without sacrificing readability and understanding.  C: This lab is adequate, with only minor deficiencies. The program produces correct results but does not display them correctly. The code is readable only by someone who knows what it is supposed to be doing. Some parts of the code could be reused in other programs. The documentation is simply comments embedded in the code with some simple header comments separating routines. The code was within 2 weeks of the due date. The code is brute force and unnecessarily long..  D: This lab shows some effort but has at least one major deficiency.The program is producing incorrect results. The code is poorly organized and very difficult to read. The code is not organized for reusability. The documentation is simply comments embedded in the code and does not help the reader understand the code. The code was more than 2 weeks overdue. The code is huge and appears to be patched together.  E: This lab is poorly written and shows very little effort or understanding. | | | | | |