Progressive Education Society's
Modern College of Arts, Science and Commerce (Autonomous)
Shivajinagar, Pune 5

M.Sc. Computer Science A.Y. 2020-21

****

Subject: Advanced Database Concepts
Assignment 1: RDBMS Concepts using MySQL

****

(1)Student- Competition database

Consider the following database maintained by a school to record the details of all the competitions organized by the school every year. The school maintains information about students as well as competitions. Competition type can be like 'academics' or 'sports' etc. Following are the tables

1. Student (sreg_no int , name char(30), class char(10))
2. Competition(c_no int , name char(20), type char(15))

The relationship is as follows .

Student-competition : M-M with described attributes rank and year.

(a) Queries:

1. List out all the competitions held in the school.
2. List the names of all the students who have secured 1st rank in running race from 1995 to 2005.
3. Give the name of a student who has won maximum number of competitions.
4. Find out the total number of competitions organized in the school for competition type 'sports'.
5. Find out the details of students participating in different competitions.

(b) Stored Procedures:

a) Write a procedure to count the no of competitions which come under the type 'sports' and no of competitions which come under the type 'academics'.
b) Write a stored procedure which accepts year as input and gives a list of all competitions held in that year.

(c) Stored Functions:

a) Write a function which accepts a competition type and returns the total no of competitions held under that type.
b) Write a function which accepts a name of students and returns the total no of prizes won by that student in the year 2001.

(d) Cursors:

a) Write a procedure using cursor which will list all the competitions in which students studing in the 5th std have won 1st prize in 1995.

b) Write a procedure using cursor to give competition wise 1st or 2nd rank holders for all the competitions held in the year 2001

(e) Triggers:

a) Write a trigger before insertion on the relationship table. if the year entered is greater than current year, it should be changed to current year.
b) Create a new table 'tot_prize' containing the fields stud_reg_no and no_of_prizes.
Write a trigger after insert into the relationship table between student and Competition. It should increment the no_of_prizes in the table 'tot_prize' for the NEW stud_reg_no by 1.

(f) Views:

a) Create a view over the competition table which contains only competition name and its type and it should be sorted on type.
b) Create a view containing student name, class, competition name, rank and year. the list should be sorted by student name.

****

(2) Bank Database

Consider the following database of Bank. A bank maintains the customer details, account details and loan details . It has the Branch information also. Following are the tables :

1 Account(acc_no int, acc_type char(10), balance float(8,2))
2. Loan(loan_no int, loan_amt double(9,2) , no_of_years int)
3. Branch(branch_no int, branch_name char(20), branch_city varchar(20))
4 .Customer(cust_no int , cust_name char(20), cust_street char(15), cust_city varchar(20))

The relationships are as follows. :-

Customer-Account : 1-M Customer- Loan : 1-M
Branch-Loan : 1-M Branch-Account : 1:M

Constraints :

1. branch_name is not null.

(a) Queries:

1. Find out customer name having loan amt >10000
2. Select customers having account but not loan.
3. Select customers having account as well as loan.
4. Find out customer names having loan at 'Pimpri' branch.
5. Find out customer names having Saving account.
6. Find out the total of all the loan amount at Nagar Branch.
7. List the names of customers who have taken loan from the branch in the same city they live.

(b) Stored Procedures:

a) Write a procedure to transfer amount of 1000 Rs. from account_no 10 to account_no 20.
b) Write a procedure withdrawal for the following
1. Accept balance amount and acc_no for withdrawal as input parameters.
2. Check if input amount is less than actual balance of accounts.
3. If input amount is less ,give the message "withdrawal allowed from account" otherwise give the message "withdrawal not allowed from account". Update the balance field.

(c) Stored Functions:

a) Write a function that returns the total loan amount of a particular branch.
(Accept branch name as input parameter.)
b) Write a function to count the no. of customers of particular branch.
(Accept branch name as input parameter).

(d) Cursors:

a) Write a procedure using cursor to display the customers having loan amounts between 40000 and 50000 from branch name 'CIDCO'..

b) Write a procedure using cursor add an interest of 3% to the balance of all accounts having balance > 5000.

(e) Triggers:

a) Write a trigger which will execute when account_no is less than 0 . Display the appropriate message.

b) Write a trigger which will execute when loan_amount is updated. Do not allow to update. Display the message that ' loan amount once given cannot be updated."

(f) Views:

a) Create a view which contains all the customer details along with the details of all accounts of that customer.

b) Create a view which contains details of all loans from the 'sadashiv peth' branch.

****

Assignment Evaluation

0: Not Done _____ 1. Incomplete _____ 2. Late Complete _____

3. Needs Improvement_____ 4. Complete _____ 5 Not Done _____

****