Sister Nivedita University

Department of Computer Science and Engineering

DATABASE MANAGEMENT SYSTEM LAB

ASSIGNMENT 1

1. Create a table "Student" with following structure:

Roll	Name	Age	Course	Math	Ph lcs	Computer	Blrthdgy

Details of Attributes:-

Roll Number (S)
Name Varchar2 (30)
Age Number (S)
Course Varchar2 (5)
Math Number (6, 2)
Physics Number (6, 2)
Computer Number (6, 2)
Birthday Date

2. Create table MSc from the Student table with the same fields and same structure but without any data.
3. Display the stricture of MSc table.
4. Create table 'MCA' from the Student table with the same fields and same structure but without any data. Rename Course with Department and Name with First Name.
5. Display the structure of MCA table.
6. Insert following records into the Student table:-

- 1, Rahul, l9,BCA,79.5,67,89,15-jun-93 2,Kuna1,21,BCA,68,76,59.5,16-aug-91
- 3,Aditi,20,MSc,90,73,56,20-sep-92
- 4,Sumit,20,MCA,57.5,78,81,07-dec-91
- 5,Anirban,22,MCA,80,68,63,l5-sep-94
- 6,Kumkum,21,BCA,72,54.5,60,08-feb-95
- 7,Suman,2l,BCA,91.5,32,61,10-mar-94
- 8,Rohit,22,MSc,85,76,92,19-apr-92

7. Display all the students' details from Student table.
8. Find out the details of the students with roll no 5 from Student table.
9. Show the roll, name, marks of all subjects for all students from Student table.
10. Insert data in the 'MCA' table from 'Student' table where course is MCA.
11. Display the structure of 'Student' and 'MCA' table.
12. Update the Math marks of the student with Roll no 7 from 91 to 95 in the 'Student' table.
13. Delete the details of the student with Roll no 2 from the 'Student' table.

Sister Nivedita University

Department of Computer Science and Engineering

DATABASE MANAGEMENT SYSTEM LAB

ASSIGNMENT 2

1. Create the following tables with appropriate constraints using SQL command.

Example:

SQL Query for creating table

CREATE TABLE <*TABLE NAME*>
(<*COLUMN NAME 1*> <*DATA TYPE*>,
<*COLUMN NAME 2*> <*DATA TYPE*> NOT NULL[1],
……);

[1] If Attribute is NOT NULL.

SQL Query to add constraints

ALTER TABLE <***TABLE NAME***> ADD CONSTRAINT <***CONSTRAINT NAME***> PRIMARY KEY (<***COLUMN NAME***>);

ALTER TABLE <***TABLE NAME***> ADD CONSTRAINT <***CONSTRAINT NAME***> CHECK <***COLUMN NAME***> IN (***VALUE1, VALUE2***,……);

ALTER TABLE <***TABLE NAME***> ADD CONSTRAINT <***CONSTRAINT NAME***> FOREIGN KEY <***COLUMN NAME***> REFERENCES ***<TABLE NAME> <COLUMN NAME>;***

A) Table Name : **Member**

COLUMN NAME	DATA TYPE	DESCRIPTION
Member_Id	Number(5)/ Integer(5)	Unique Member ID
Member_Name	Varchar(30)	Name of the Library member
Member_address	Varchar2(50)	Address of the member
Acc_Open_Date	Date	Date of membership
Membership_type	Varchar2(20)	Type of the membership such as „Lifetime",„ Annual", „Half Yearly",„ Quarterly"
Fees_paid	Number(4)	Membership fees paid
Max_Books_Allowed	Number(2)	Total Number of books that can be issued to the member.
Penalty_Amount	Number(7,2)	Penalty amount due

CONSTRAINT:

a. Member_Id – Primary Key
b. Member_Name – NOT NULL
c. Membership_type - „Lifetime",„ Annual", „Half Yearly",„ Quarterly"
d. Max_books_allowed <7
e. Penalty_amt maximum 1000

B) Table Name : **BOOKS**

COLUMN NAME	DATA TYPE	DESCRIPTION
Book_No	Number(6)	Book identification number
Book_Name	VarChar2(30)	Name of the book
Author_name	Varchar2(30)	Author of the book
Cost	Number(7,2)	Cost of the book
Category	Char(10)	Category like Science , Fiction etc.

CONSTRAINT:

a. Book_No – Primary Key
b. Book_Name – Not Null
c. Category – Science, Database, System, Others.

C) Table Name : **ISSUE**

COLUMN NAME	DATA TYPE	DESCRIPTION
Lib_Issue_Id	Number(10)	Library Book Issue No
Book_No	Number(6)	The ID of book, which is issued
Member_Id	Number(5)	Member that issued the book
Issue_Date	Date	Date of Issue
Return_date	Date	Return date

CONSTRAINT:

a. Lib_Issue_Id -Primary key
b. Book_No - foreign key
c. Member_id - foreign key

2. Insert the following data to the appropriate table using SQL command.

Example:

SQL Query for inserting data into table

INSERT INTO <***TABLE NAME***> (*COLUMN1,COLUMN2, COLUMN3,*.....)
..... VALUES (*DATA1,DATA2, DATA3,*);

OR

INSERT INTO <***TABLE NAME***> VALUES (*DATA1,DATA2, DATA3,*.....);

OR

INSERT INTO <**TABLE NAME**> VALUES (*&COLUMN1,&COLUMN2, &COLUMN3,*.....);

N.B *Generally first form is the main query to insert data into the table. But normally we use the second one. First one is used if data are not present for every attribute. Finally third one used to insert the user define data to the table. Last one do not run in to the oracle express edition. For every case data values must be written serially according to the column name. If data value is character type, it writes with in single inverted comma ('char ').*

Sister Nivedita University

Department of Computer Science and Engineering

DATABASE MANAGEMENT SYSTEM LAB

A) Table Name : **Member**

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLOWED	PENALTY_AMOUNT
1	Sayantan Sinha	Pune	10-Dec-10	Lifetime	2000	6	50
2	Abhirup Sarkar	Kolkata	19-jan-11	Annual	1400	3	0
3	Ritesh Bhuniya	Gujarat	20-feb-11	Quarterly	350	2	100
4	Paresh sen	Tripura	21-mar-11	Half yearly	700	1	200
5	Sohini Haldar	Birbhum	11-apr-11	Lifetime	2000	6	10
6	Suparna Biswas	Kolkata	12-apr-11	Half Yearly	700	1	0
7	Suranjana Basu	Purulia	30-june-11	Annual	1400	3	50
8	Arpita Roy	Kolkata	31-july-11	Half yearly	700	1	0

B) Table Name : **BOOKS**

BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
101	Let us C	Denis Ritchie	450	Others
102	Oracle – Complete Ref	Loni	550	Database
103	Visual Basic 10	BPB	700	Others
104	Mastering SQL	Loni	450	Database
105	PL SQL-Ref	Scott Urman	750	Database
106	UNIX	Sumitava Das	300	System
107	Optics	Ghatak	600	Science
108	Data Structure	G.S. Baluja	350	Others

C) Table Name : **ISSUE**

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7001	101	1	10-jan-11	
7002	102	2	25-jan-11	
7003	104	1	1-Feb-11	
7004	104	2	15-Mar-11	
7005	101	4	04-Apr-11	
7006	108	5	12-apr-11	
7007	101	8	1-Aug-11	

SQL Query to retrieve data of table.

SELECT * FROM <TABLE NAME>; ***(Use to see the whole data of table)***

SELECT COLUMN NAME1, COLUMN NAME2, ...FROM <TABLE NAME>;
(Use to see the data of the particular attributes of the table)

Sister Nivedita University

Department of Computer Science and Engineering

DATABASE MANAGEMENT SYSTEM LAB

ASSIGNMENT 3

1. Retrieve the Name of Book and Cost who has Maximum cost.
2. Calculate the Minimum cost, Average cost and Total cost value in BOOKS table and Rename the resulting attributes.
3. Retrieve the Name and ID of Members who"s issued book between 26th January 2011 and 14th April 2011.
4. Retrieve Book Name, Author Name and Category whose Category is not „OTHERS".
5. Retrieve the Book name and Author Name where 5th letter of the Author name is "t".
6. How many Books are available whose Cost is greater than 350.
7. How many different Authors name are available in BOOKS table.
8. Calculate the following Numeric functions:
    a. What is the absolute value of -167.
    b. Calculate 8^6.
    c. Round up to 2 decimal points (134.56789).
    d. What is the square root of 144
    e. Floor and Ceil value of 13.15.
9. Extract Year, Month, Day from System Date.
10. What is the greatest value between 4, 5 and 17.
11. What is the Least value between '4', '5' and '17' and Express why resulting value of last two queries are same.
12. Extract 4 letters from 3th position of this word 'INFOSYS'.
13. What is the ASCII value of 'a' and 'S'.
14. What is Length of this word 'INFOSYS' AND change 'S' with 'T'.
15. Retrieve the Names and Address of the Members who belong to Kolkata.
16. Retrieve the Name of Books, where Cost prices are between 300 and 500.
17. List the Name of the Members whose Membership type is "HALF YEARLY".
18. List the Name of the Members who open their account in the year of 2011.
19. Retrieve the Penalty Amount of the Members who has taken the book "LET US C".
20. Retrieve the no of Max books allowed to a Member, who has issued books on January.
21. Give the Names of the Members who have not issued any books.
22. Give the Name and Category of the books whose cost is not recorded.
23. List all the books that are written by Author „"Loni"" and has Price less than 600.
24. List the Issue details for the Books that are not returned yet.
25. List all the Books that belong to any one of the following categories Science, Database.
26. List all the Members in the descending order of Penalty due on them.

27. List all the Books in ascending order of category and descending order of price.
28. List all the Books that contain word „SQL" in the Name of the Book.
29. List all the Members whose Name starts with S.
30. List all the Members whose Name starts with S or A and contains letter T in it.
31. List the Entire Book name in INIT CAP and Author Name in UPPER case in the descending order of the Book Name.
32. List the data in the book table with category data displayed as „D" for Database, „S" for Science, „R" for RDBMS and „O" for all the others.
33. List all the Members that became the Member in the year 2011.