Laboratory 4.1

Title of the Laboratory Exercise: implement constraints and built in functions

1. Introduction and Purpose of Experiment

Constraints are the rules which are enforced on the data being stored in a table. There are constraints that can be applied to a table such as NOT NULL, UNIQUE, PRIMARY KEY and FOREIGN KEY. SQL has many built-in functions for performing calculations on data. In SQL, a built-in function is a piece for programming that takes zero or more inputs and returns a value. By doing this lab, students will be able to implement constraints and built in functions on the database.

2. Aim and Objectives

Aim

- To design and implement constraints on the data using SQL commands
- To implement built in functions in SQL

Objectives

At the end of this lab, the student will be able to

- Identify different types of constraints on the data
- Apply constraints on the data in different ways
- Implement built-in functions in SQL

3. Experimental Procedure

i. Analyse the problem statement
ii. Design SQL commands using appropriate constraints
iii. Execute the SQL commands
iv. Test the executed commands
v. Document the Results
vi. Analyse and discuss the outcomes of your experiment

4. Questions

a. Execute the following built-in functions in SQL using Netbeans IDE
   i. String functions
   ii. Date functions
   iii. Numeric functions

5. Presentation of Results

```
1  Select upper('Deepak R') , lower('Deepak R') , Concat('Indian','Karnatakan'), length('Deepak'),Replace('MSR UAS','MSR','RAMAIAH');
2
3  Select Sysdate() , curdate() ,curtime();
4
5  Select ROUND(3.14159), Ceil(-21.2) , FLOOR(-34.30),Sign(-555);
6
7  Select abs(-60),POWER(3,2),  mod(11,5) , SQRT(64) ;
```

Select upper('Deepak R') ... ×

Page Size: 20 Total Rows: 1 Page: 1 of 1 Matching Rows:

#	upper('Deepak R')	lower('Deepak R')	Concat('Indian','Karnatakan')	length('Deepak')	Replace('MSR UAS','MSR','RAMAIAH')
1	DEEPAK R	deepak r	IndianKarnatakan	6	RAMAIAH UAS

Figure 0-1 String Functions

Here the inputted String can be converted into uppercase or lowercase string by using upper() and lower() respectively .And we can also Concat and find length using String Functions

Select Sysdate() , curdat... ×

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#	Sysdate()	curdate()	curtime()
1	2020-11-12 16:23:46.0	2020-11-12	16:23:46

Figure 0-2 Date Functions

In data Functions we can find system's current date ,time and many more operations.

Select ROUND(3.14159), Ce... ×

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#	ROUND(3.14159)	Ceil(-21.2)	FLOOR(-34.30)	Sign(-555)
1	3	-21	-35	-1

Figure 0-3 Numeric Functions

In Numeric Functions we can Round Off numeric values ,Find Sign of the value and also Ceil and Floor of decimal numbers.

Select abs(-60),POWER(3,2... ×

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#	abs(-60)	POWER(3,2)	mod(11,5)	SQRT(64)
1	60	9.0	1	8.0

Figure 0-4 MAth Functions

In Math Function we can find absolute value of number,Power of the number ,mod and square root of the number.

6. Analysis and Discussions

In this lab we were got to kow about Inbuilt SQL queries and cam to know how to use and run Sql queries in Netbeans

7. Conclusions

Through this lab We learnt how to make Complex program easier by Using Inbuilt Functions.

8. Comments

1.Limitations of Experiments

As per my Knowledge we don't have any Limitation in using Built in Function unless we know how it work in Backend,

2.**Limitations of Results**

Nope

3.**Learning happened**

We learnt How the inputted String can be converted into uppercase or lowercase string by using upper() and lower() respectively .And we can also Concat and find length using String Functions

In data Functions we can find system's current date ,time and many more operations.

In Numeric Functions we can Round Off numeric values ,Find Sign of the value and also Ceil and Floor of decimal numbers

In Math Function we can find absolute value of number,Power of the number ,mod and square root of the number.