

**Information System Management Lab
BCOM 307**

Assignment #7

Submitted by:

Name: YASH JAIN
Enrollment No: 03914788818
Semester: B.Com(H) 5th Semester
Class: B.COM(H)
Section: B.Com 5A
Date of Submission: 25/09/2021

Submitted to:

Praveen Kumar Singh
Assistant Professor, MAIMS



Department of Commerce
Maharaja Agrasen Institute of Management Studies
Affiliated to Guru Gobind Singh Indraprastha University, Delhi
Sector -22, Rohini, Delhi -110086, India; www.maims.ac.in



Maharaja Agrasen Institute of Management Studies

Affiliated to GGS IP University; Recognized u/s 2(f) of UGC

Recognized by Bar Council of India; ISO 9001: 2015

Certified Institution Sector 22, Rohini, Delhi -110086, India;

www.maims.ac.in

Department of Commerce

Academic Year: 2020-21

Semester: Vth

Assignment No.7

Unit No:

Course/Subject Code: BCOM 307

Subject Title: Information System Management Lab

Issue Date:

Last Date of Submission:

Instructions for Students:

1. **All Questions are Compulsory.**
2. The student should attach proper cover page for each assignment clearly mentioning the Assignment No.
3. Each assignment should be prepared by the student individually with proper explanation and screenshots.
4. A4 size ruled sheets should be used for the assignment.
5. Assignment pages should be serially numbered at the bottom of page.

During online education mode, upload scanned copy of the complete assignment including cover page latest by due date.

QuestionNo.	Question	CO No.
1	<p>Create the table departments using the following the following columns and insert any 4 values in the table:</p> <p>I. Dept_No INT (make this as primary key)</p> <p>II. Dept_Name VARCHAR(20), CHECK that the department name should among the following:</p> <p>a) Sales</p> <p>b) Marketing</p> <p>c) IT</p> <p>d) Accounting</p> <p>III. Location VARCHAR(20), CHECK that the location should be among the following:</p> <p>a) Delhi</p> <p>b) Mumbai</p> <p>c) Noida</p>	CO1

	d) Gurugram	
2	<p>Create a table Employees using the following columns and insert any 3 values in it:</p> <ul style="list-style-type: none"> I. Emp_No INT (make this as primary key), also CHECK that the Employee number should be between 1000 and 2000. II. Emp_Name VARCHAR(20) III. Designation VARCHAR(20), CHECK that the designation should be among the following: <ul style="list-style-type: none"> a) Saleman b) Analyst c) Manager d) President IV. Hire_date DATE V. Salary INT, CHECK that the salary should be ≥ 1000 and ≤ 5000. VI. Commission INT VII. Dept_No INT (make this as the foreign key with reference to the department table), CHECK that the dept_no should be among the following: <ul style="list-style-type: none"> a) 10 b) 20 c) 30 d) 40 	CO 1

ASSIGNMENT 7 - CHECK CONSTRAINT

Task 1 : Create the table departments using the following the following columns and insert any 4 values in the table:

- I. Dept_No INT (make this as primary key)
- II. Dept_Name VARCHAR(20), CHECK that the department name should among the following:
 - a) Sales
 - b) Marketing
 - c) IT
 - d) Accounting
- III. Location VARCHAR(20), CHECK that the location should be among the following:
 - a) Delhi
 - b) Mumbai
 - c) Noida
 - d) Gurugram

The following task is completed using the ‘create table’ command, along with the ‘primary key’ constraint, and the ‘check’ constraint, and the ‘or’ conditional operator. The check constraint allows input in a particular column of a table, only when certain declared conditions are met. The syntax for the ‘check’ constraint (to be defined in table definition) is :

column_name **check**(condition),

```

3  #creating table with 'check' constraint
4  • create table departments (
5      Dept_No int primary key,
6      Dept_Name varchar(20) check(Dept_Name='Sales' or Dept_Name='Marketing' or Dept_Name='IT' or Dept_Name='Accounting'),
7      location varchar(20) check(location='Delhi' or location='Mumbai' or location='Noida' or location='Gurugram')
8  );
9
10 • desc departments;
  
```

#	Field	Type	Null	Key	Default	Extra
1	Dept_No	int	NO	PRI		
2	Dept_Name	varchar(20)	YES			
3	location	varchar(20)	YES			

Now, if we enter any value in the columns defined via check constraint that does not satisfy the conditions, then the query won't be completed. This is depicted below.

ISM_Lab_Assignment_7-YashJain_BCom5A

```
13  
14 • insert into departments(Dept_No,Dept_Name,location)  
15 values(10,'Sale','Delhi'); #getting error due to check constraint in dept name
```

Action Output

#	Time	Action	Message
1	00:29:40	insert into departments(Dept_No,Dept_Name...	Error Code: 3819. Check constraint 'departments_chk_1' is violated.

ISM_Lab_Assignment_7-YashJain_BCom5A

```
16  
17 • insert into departments(Dept_No,Dept_Name,location)  
18 values(10,'Sales','India'); #getting error due to check constraint in location  
19
```

Action Output

#	Time	Action	Message
1	21:43:15	insert into departments(Dept_No,Dept_Name...	Error Code: 3819. Check constraint 'departments_chk_2' is violated.

Now, queries in which all the conditions under the check constraint are satisfied will be executed without any trouble.

ISM_Lab_Assignment_7-YashJain_BCom5A

```
20 • insert into departments(Dept_No,Dept_Name,location)  
21 values(10,'Sales','Delhi');  
22  
23 • insert into departments(Dept_No,Dept_Name,location)  
24 values(20,'Marketing','Mumbai');  
25  
26 • insert into departments(Dept_No,Dept_Name,location)  
27 values(30,'IT','Noida');  
28  
29 • insert into departments(Dept_No,Dept_Name,location)  
30 values(40,'Accounting','Gurugram');  
31  
32 • select * from departments;
```

Result Grid

#	Dept_No	Dept_Name	location
1	10	Sales	Delhi
2	20	Marketing	Mumbai
3	30	IT	Noida
4	40	Accounting	Gurugram

Task 2: Create a table Employees using the following columns and insert any 3 values in it:

- I. Emp_No INT (make this as primary key), also CHECK that the Employee number should be between 1000 and 2000.
- II. Emp_Name VARCHAR(20)
- III. Designation VARCHAR(20), CHECK that the designation should be among the following:
 - e) Saleman
 - f) Analyst
 - g) Manager
 - h) President
- IV. Hire_date DATE
- V. Salary INT, CHECK that the salary should be ≥ 1000 and ≤ 5000 .
- VI. Commission INT
- VII. Dept_No INT (make this as the foreign key with reference to the department table), CHECK that the dept_no should be among the following:

- e) 10
- f) 20
- g) 30
- h) 40

The following task is completed using the 'create table' command, along with the 'primary key' constraint, and the 'check' constraint, and the 'or' and the 'between' conditional operator, that allows us to define a range of the values entered in a column.

The screenshot shows a database management tool interface. The top toolbar includes icons for file operations, editing, and viewing. Below the toolbar, the SQL editor contains the following code:

```
34 #creating table employees with check constraint(s)
35 • create table employees(
36     Emp_No int primary key check(Emp_No between 1000 and 2000), Emp_Name varchar(20),
37     Designation varchar(20) check(Designation='Salesman' or Designation='Analyst'
38     or Designation='Manager' or Designation='President'),
39     Hire_Date date, salary int check(salary>=1000 and salary<=5000),
40     commission int, Dept_No int check(Dept_No=10 or Dept_No=20 or Dept_No=30 or Dept_No=40),
41     Foreign key (Dept_No)references departments(Dept_No));
42
43 • desc employees;
44
```

Below the SQL editor, the 'Result Grid' tab is active, displaying the table structure for 'employees'.

#	Field	Type	Null	Key	Default	Extra
1	Emp_No	int	NO	PRI	NULL	
2	Emp_Name	varchar(20)	YES		NULL	
3	Designation	varchar(20)	YES		NULL	
4	Hire_Date	date	YES		NULL	
5	salary	int	YES		NULL	
6	commission	int	YES		NULL	
7	Dept_No	int	YES	MUL	NULL	

While inserting the values using **'insert into'** command, it is important to realize that all the conditions in the check constraints of each column should be satisfied, to successfully execute a query.

Otherwise, it will show an error, displaying, 'Check constraint error'. This is depicted here -

The image displays three screenshots of a database IDE interface, each showing a failed SQL insert statement and its associated error message.

First Screenshot: The SQL statement is `insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No) values(100,'Yash Jain','Manager','2000-07-13',4500,450,10);`. The error message is "Error Code: 3819. Check constraint 'employees_chk_1' is violated.".

Second Screenshot: The SQL statement is `insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No) values(1000,'Yash Jain','Manage','2000-07-13',4500,450,10);`. The error message is "Error Code: 3819. Check constraint 'employees_chk_2' is violated.".

Third Screenshot: The SQL statement is `insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No) values(1000,'Yash Jain','Manager','2000-07-13',45000,450,10);`. The error message is "Error Code: 3819. Check constraint 'employees_chk_3' is violated.".

Fourth Screenshot: The SQL statement is `insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No) values(1000,'Yash Jain','Manager','2000-07-13',4500,450,100);`. The error message is "Error Code: 3819. Check constraint 'employees_chk_4' is violated.".

Now, to make our query successful, we need to enter values that satisfy the conditions of 'check' constraint of each and every column of the table. This is depicted below -

The screenshot shows a database query editor window titled "ISM_Lab_Assignment_7-YashJain_BCom5A". The editor contains the following SQL code:

```

57
58 • insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No)
59 values(1000,'Yash Jain','Manager','2000-07-13',4500,450,10);
60
61 • insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No)
62 values(1500,'Ratan Tata','Analyst','1937-11-27',1500,150,30);
63
64 • insert into employees(Emp_No,Emp_Name,Designation,Hire_Date,salary,commission,Dept_No)
65 values(2000,'Elon Musk','President','1961-06-08',3000,300,20);
66
67 • select * from employees;
68

```

Below the code editor is a "Result Grid" showing the output of the query. It includes a search bar, "Filter Rows:", "Edit:", "Export/Import:", and "Wrap Cell Content:" options. The grid displays the following data:

#	Emp_No	Emp_Name	Designation	Hire_Date	salary	commission	Dept_No
1	1000	Yash Jain	Manager	2000-07-13	4500	450	10
2	1500	Ratan Tata	Analyst	1937-11-27	1500	150	30
3	2000	Elon Musk	President	1961-06-08	3000	300	20