

# BHASKARACHARYA COLLEGE OF APPLIED SCIENCES, DU



# DATABASE MANAGEMENT SYSTEM PRACTICAL ASSIGNMENT

NAME:- DEEPAK KUMAR ROLL NO.:- 2002019 SUBMITTED TO:-MR. JAYANT SIR Create the following database schema EMP-DEPT with all specified constraints and use it to answer the given queries.

#### **EMPLOYEE Schema**

Field Type NULL KEY DEFAULT
Eno Char(3) NO PRI NIL
Ename Varchar(50) NO NIL
Job\_type Varchar(50) NO NIL
SupervisonENO Char(3) Yes FK NILHire\_date Date
NO NIL
Dno Integer YES FK NIL
Commission Decimal(10,2) YES NIL
Salary Decimal(7,2) NO NIL

#### :::RESULT:::

CREATE TABLE EMPLOYEE (
Eno CHAR(3) NOT NULL PRIMARY KEY,
ENAME VARCHAR(50) NOT NULL,
Job\_Type VARCHAR(50) NOT NULL,
SupervisionENO CHAR(3),
Hire\_date DATE NOT NULL,
Dno INTEGER,
Commision DECIMAL(10 , 2 ),
Salary DECIMAL(10 , 2 ) NOT NULL,
foreign key (Dno) references DEPARTEMENT(Dno),
foreign key (SupervisionENO) references EMPLOYEE(Eno)
);

Fiel	d	Туре	!	Null	Key	Def	ault	Extra			
Hire Dno	type   rvisonENO   _date   ission	varch char( date int decir	nar(50) nar(50)	NO NO NO YES NO YES YES	PRI     MUL   MUL	NIL   NIL   NIL   NUL   NUL   NUL	- - -L -L	+             	-+           		
	in set (0. select * f +   Ename			+   Super	rvisonE	ENO	Hire	_date	+   Dno	+   Commission	+   Salary
10 11 12 13 14 15 16 17 18 19 20 21 22 23 79	Krishna   Mohan   Rajesh   Jitendra   Prakash   Ram Charas   Jay Praka   Bittu   Ankit   Ayush   Chandrase   Mithu   Radheshya   Amit Pras   Radhamoha	ekhar	Admin BM BM BM BM EM EM EM EM EM EM EM EM HM	NIL   NIL			1981 1982 1983 1984 1989 1990 1995 1993 1997 1985 2004 2003	-10-02 -10-03 -10-01 -12-05 -10-06 -12-01 -12-01 -12-01 -12-01 -04-01 -04-01 -04-01 -01-01 -01-01	30   10   20   50   40   20   20   40   40   10   50   50   40	500.00   250.00   300.00   250.00   300.00   150.00   150.00   150.00   100.00   200.00   200.00   NULL   NULL	4000.00   2500.00   3000.00   2500.00   2500.00   2000.00   1900.00   1850.00   1750.00   2000.00   2300.00   1500.00   1500.00

#### **DEPARTMENT Schema**

Dno Integer No PRI NULL Dname Varchar(50) Yes NULL Location Varchar(50) Yes New Delhi

```
CREATE TABLE DEPARTEMENT (
Dno INTEGER NOT NULL PRIMARY KEY,
Dname VARCHAR(50),
Location VARCHAR(50) DEFAULT 'New Delhi'
);
```

```
mysql> desc DEPARTMENT;

| Field | Type | Null | Key | Default | Extra |

| Dno | int | NO | PRI | NULL | |

| Dname | varchar(50) | YES | | NULL | |

| Location | varchar(50) | YES | | NEW DELHI |

| Tows in set (0.00 sec)

mysql> select * from DEPARTMENT;

| Dno | Dname | Location |

| 10 | Purchase | New Delhi |

| 20 | Blake | New Delhi |

| 30 | Office | Mumbai |

| 40 | Sales | New Delhi |

| 50 | IT Dep | Dallas |

| 5 rows in set (0.00 sec)
```

#### :::QUERY-1:::

Query to display Employee Name, Job, Hire Date, Employee Number; for each employee with the Employee Number appearing first.

#### :::RESULT:::

select Eno "Employee Number", Ename "Employee Name", Job\_type "Job", Hire\_date "Hire Date" from EMPLOYEE;

mysql> select Eno "Employee Number	",Ename "Employee Name", Job_type "Job", Hire_date "Hire Date" from EMPLOYEE;
Employee Number   Employee Name	Job
+	++
10   Krishna	Admin   1981-10-02
11   Mohan	BM   1981-10-03
12   Rajesh	BM   1982-10-01
13   Jitendra	BM   1983-12-05
14   Prakash	BM   1984-10-06
15   Ram Charan	EM   1989-12-01
16   Jay Prakash	EM   1990-12-01
17   Bittu	EM   1995-12-01
18	EM   1993-11-01
19   Ayush	EM   1997-05-01
20   Chandrasekhar	EM   1985-04-01
21   Mithu	EM   1986-04-01
22   Radheshyam	EM   2004-01-01
23   Amit Prasad	EM   2003-01-01
79   Radhamohan	HR   1981-10-01
+	
15 rows in set (0.01 sec)	

#### :::QUERY-2:::

Query to display unique Jobs from the Employee Table. **:::RESULT:::** 

select distinct Job type "Unique Job" from EMPLOYEE;

# :::QUERY-3:::

Query to display the Employee Name concatenated by a Job separated by a comma.

#### :::RESULT:::

select concat(Ename,", ",Job\_type) "Employee Name, Job"
from EMPLOYEE;

```
mysql> select concat(Ename,", ",Job_type) "Employee Name, Job" from EMPLOYEE;
+-----+
| Employee Name, Job |
| Krishna, Admin
| Mohan, BM
| Rajesh, BM
| Jitendra, BM
| Prakash, BM
| Ram Charan, EM
| Jay Prakash, EM
| Bittu, EM
| Ankit, EM
| Ayush, EM
| Chandrasekhar, EM
| Mithu, EM
| Radheshyam, EM
| Amit Prasad, EM
| Radhamohan, HR
15 rows in set (0.00 sec)
```

# :::QUERY-4:::

Query to display all the data from the Employee Table. Separate each Column by a comma and name the said column as THE OUTPUT.

#### :::RESULT:::

select concat(Eno,", ",Ename,", ",Job\_type,", ",SupervisonENO,", ",Hire\_date,", ",Dno,", ",Commission,", ",Salary) "THE OUTPUT" from EMPLOYEE;

# :::QUERY-5:::

Query to display the Employee Name and Salary of all the employees earning more than \$2850.

# :::RESULT:::

select Ename "Employee Name", Salary "Salary" from EMPLOYEE where Salary > 2850;

#### :::QUERY-6:::

Query to display Employee Name and Department Number for the Employee No= 79.

#### :::RESULT:::

select Ename "Employee Name", Dno "Department Number" from EMPLOYEE where Eno = 79;

```
      mysql> select Ename "Employee Name", Dno "Department Number" from EMPLOYEE where Eno = 79;

      +-----+

      | Employee Name | Department Number |

      +-----+

      | Radhamohan |
      30 |

      +-----+

      1 row in set (0.01 sec)
```

#### :::QUERY-7:::

Query to display Employee Name and Salary for all employees whose salary is not in the range of \$1500 and \$2850.

#### :::RESULT:::

select Ename "Employee Name", Salary "Salary" from EMPLOYEE where Salary < 1500 or Salary > 2850;

### :::QUERY-8:::

Query to display Employee Name and Department No. of all the employees in Dept 10 and Dept 30 in the alphabetical order by name.

#### :::RESULT:::

select Ename "Employee Name", Dno "Department Number" from EMPLOYEE where Dno = 10 or Dno = 30 order by Ename;

# :::QUERY-9:::

Query to display Name and Hire Date of every Employee who was hired in 1981.

#### :::RESULT:::

select Ename , Hire\_date from EMPLOYEE where Hire date like "1981%";

# :::QUERY-10:::

Query to display Name and Job of all employees who have not assigned a supervisor.

#### :::RESULT:::

select Ename , Job\_type from EMPLOYEE where
SupervisonENO = "NIL";

#### :::QUERY-11:::

Query to display the Name, Salary and Commission for all the employees who earn commission.

#### :::RESULT:::

select Ename , Salary , Commission from EMPLOYEE where Commission != 0;

Ename	Salary	Commission		
Krishna	+ I 4000 00	500.00 l		
		250.00		
		300.00		
Jitendra				
Prakash				
Ram Charan				
Jay Prakash				
•		150.00		
Ankit	1850.00	150.00		
Ayush	1750.00	100.00		
Chandrasekhar	2000.00	200.00		
Mithu	2300.00	200.00		
Radhamohan	5000.00	700.00		

# :::QUERY-12:::

Sort the data in descending order of Salary and Commission.

# :::RESULT:::

select \* from EMPLOYEE order by Salary desc , Commission desc;

no	Ename .	Job_type	SupervisonENO	Hire_date	Dno	Commission	Salary
79	Radhamohan	HR	NIL	1981-10-01	30	700.00	5000.00
10	Krishna	Admin	NIL	1981-10-02	30	500.00	4000.00
12	Rajesh	BM	79	1982-10-01	20	300.00	3000.00
14	Prakash	BM	12	1984-10-06	40	300.00	2500.00
11	Mohan	BM	79	1981-10-03	10	250.00	2500.00
13	Jitendra	BM	10	1983-12-05	50	250.00	2500.00
21	Mithu	EM	13	1986-04-01	50	200.00	2300.00
20	Chandrasekhar	EM	13	1985-04-01	50	200.00	2000.00
15	Ram Charan	EM	12	1989-12-01	20	150.00	2000.00
16	Jay Prakash	EM	12	1990-12-01	20	150.00	1900.00
18	Ankit	EM	14	1993-11-01	40	150.00	1850.00
17	Bittu	EM	14	1995-12-01	40	150.00	1800.00
19	Ayush	EM	11	1997-05-01	10	100.00	1750.00
22	Radheshyam	EM	NIL	2004-01-01	40	NULL	1600.00
23	Amit Prasad	EM	NIL	2003-01-01	10	NULL	1500.00

#### :::QUERY-13:::

Query to display Name of all the employees where the third letter of their name is 'A'.

#### :::RESULT:::

select Ename "Employee Name" from EMPLOYEE where Ename like "\_a%";

```
mysql> select Ename "Employee Name" from EMPLOYEE where Ename like "__a%";

+-----+

| Employee Name |

+-----+

| Prakash |

| Chandrasekhar |

+-----+

2 rows in set (0.00 sec)
```

#### :::QUERY-14:::

Query to display Name of all employees either have two 'R's or have two 'A's in their name and are either in Dept No = 30 or their Manger's Employee No = 778.

#### :::RESULT:::

select Ename "Employee Name" from EMPLOYEE where Ename like "rr%" or "aa%" or Dno = 30 or Eno = 778;

# :::QUERY-15:::

Query to display Name, Salary and Commission for all employees whose Commission amount is greater than their Salary increased by 5%.

#### :::RESULT:::

select Ename, Salary, Commission from EMPLOYEE where Commission > (Salary + 0.05 \* Salary);

```
mysql> select Ename, Salary, Commission from EMPLOYEE where Commission > (Salary + 0.05 * Salary);
Empty set (0.00 sec)
```

#### :::QUERY-16:::

Query to display the Current Date along with the day name.

#### :::RESULT:::

select Curdate() "Current Date" , Dayname(Curdate())
"Day";

```
mysql> select Curdate() "Current Date" , Dayname(Curdate()) "Day";
+-----+
| Current Date | Day |
+-----+
| 2022-01-28 | Friday |
+-----+
1 row in set (0.00 sec)
```

#### :::QUERY-17:::

Query to display Name, Hire Date and Salary Review Date which is the 1st Monday after six months of employment.

```
select y.Emp_name as 'Name', y.Hiring_date,
```

```
case
        when dayname(y.new date) = 'Tuesday' then
adddate(y.new date, interval 6 day)
        when dayname(y.new date) = 'Wednesday'
then adddate(y.new date, interval 5 day)
        when dayname(y.new date) = 'Thursday' then
adddate(y.new date, interval 4 day)
        when dayname(y.new date) = 'Friday' then
adddate(y.new date, interval 3 day)
        when dayname(y.new date) = 'Saturday' then
adddate(y.new date, interval 2 day)
        when dayname(y.new date) = 'Sunday' then
adddate(y.new date, interval 1 day)
        else v.new date
    end as Salary review date
from (
        select x.Ename Emp Name,
            x. Hire date Hiring date,
            adddate(hire date, interval 6 month)
new date
        from (
                select Ename,
                    Hire date
                from EMPLOYEE
            ) X
    ) y;
```

#### :::QUERY-18:::

Query to display Name and calculate the number of months between today and the date on which employee was hired of department 'Purchase'.

#### :::RESULT:::

select Ename Name, TIMESTAMPDIFF(MONTH,Hire\_date,Curdate()) "Months Between Today and Hire\_date" from EMPLOYEE NATURAL JOIN DEPARTMENT where Dname = "Purchase";

### :::QUERY-19:::

Query to display the following for each employee <E-Name> earns < Salary> monthly but wants < 3 \* Current Salary >. Label the Column as Dream Salary.

select concat(Ename," earns \$",Salary," monthly but wants \$", 3\*Salary, ".") "Dream Salary" from EMPLOYEE;

#### :::QUERY-20:::

Query to display Name with the 1st letter capitalized and all other letter lower case and length of their name of all the employees whose name starts with 'J', 'A' and 'M'.

#### :::RESULT:::

select Ename from EMPLOYEE where Ename like "J%" or "A%" or "M%";

### :::QUERY-21:::

Query to display Name, Hire Date and Day of the week on which the employee started.

#### :::RESULT:::

select Ename, Hire\_date, DAYOFWEEK (Hire\_date)
DayOfWeeek from EMPLOYEE;

mysql> select Ena	me,Hire_date,	DAYOFWEEK(Hire_date) DayOfWeeek from EMPLOYEE;
Ename +	Hire_date	DayOfWeeek   +
Krishna	1981-10-02	6
Mohan	1981-10-03	7
Rajesh	1982-10-01	6
Jitendra	1983-12-05	2
Prakash	1984-10-06	7
Ram Charan	1989-12-01	6
Jay Prakash	1990-12-01	7
Bittu	1995-12-01	6
Ankit	1993-11-01	2
Ayush	1997-05-01	5
Chandrasekhar	1985-04-01	2
	1986-04-01	3
	2004-01-01	5
Amit Prasad	2003-01-01	4
Radhamohan	1981-10-01	5
<u> </u>		
15 rows in set (0	0.00 sec)	

# :::QUERY-22:::

Query to display Name, Department Name and Department No for all the employees.

#### :::RESULT:::

select EMPLOYEE.Ename Name, EMPLOYEE.Dno "Department Number" ,DEPARTMENT.Dname "Department Name" from EMPLOYEE.EMPLOYEE NATURAL JOIN EMPLOYEE.DEPARTMENT;

Name	Department Number				
Mohan	10	Purchase			
Ayush	10	Purchase			
Amit Prasad	10	Purchase			
Rajesh	20	Blake			
Ram Charan	20	Blake			
Jay Prakash	20	Blake			
Krishna	30	Office			
Radhamohan	30	Office			
Prakash	40	Sales			
Bittu	40	Sales			
Ankit	40	Sales			
Radheshyam	40	Sales			
Jitendra	50	IT Dep			
Chandrasekhar	50	IT Dep			
Mithu	50	IT Dep			

# :::QUERY-23:::

Query to display Unique Listing of all Jobs that are in Department number 30.

# :::RESULT:::

select Job\_type from EMPLOYEE NATURAL JOIN DEPARTMENT where Dno = 30;

#### :::QUERY-24:::

Query to display Name, Dept Name of all employees who have an 'A' in their name.

#### :::RESULT:::

select Ename Name, Dname "Department Name" from EMPLOYEE NATURAL JOIN DEPARTMENT where Ename like "%A%";

```
mysql> select Ename Name,Dname "Department Name" from EMPLOYEE NATURAL JOIN DEPARTMENT where Ename like "%A%";
 Name
               | Department Name
 Krishna
                | Office
                 Purchase
 Mohan
                 Blake
 Rajesh
 Jitendra
                 IT Dep
 Prakash
                 Sales
 Ram Charan
                 Blake
 Jay Prakash
                 Blake
 Ankit
                 Sales
 Ayush
                 Purchase
 Chandrasekhar
                 IT Dep
 Radheshyam
                 Sales
 Amit Prasad
               | Purchase
| Office
 Radhamohan
13 rows in set (0.00 sec)
```

# :::QUERY-25:::

Query to display Name, Job, Department No. And Department Name for all the employees working at the Dallas location.

select Ename Name, Job\_type Job, Dno "Department Number", Dname "Department Name" from EMPLOYEE NATURAL JOIN DEPARTMENT where Location = "Dallas";

```
:::QUERY-26:::
 :::RESULT:::
:::OUERY-27:::
 :::RESULT:::
:::QUERY-28:::
 :::RESULT:::
:::OUERY-29:::
 :::RESULT:::
:::OUERY-30:::
 :::RESULT:::
:::OUERY-31:::
 :::RESULT:::
:::QUERY-32:::
 :::RESULT:::
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```

```
:::QUERY-39:::
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:::RESULT:::
```