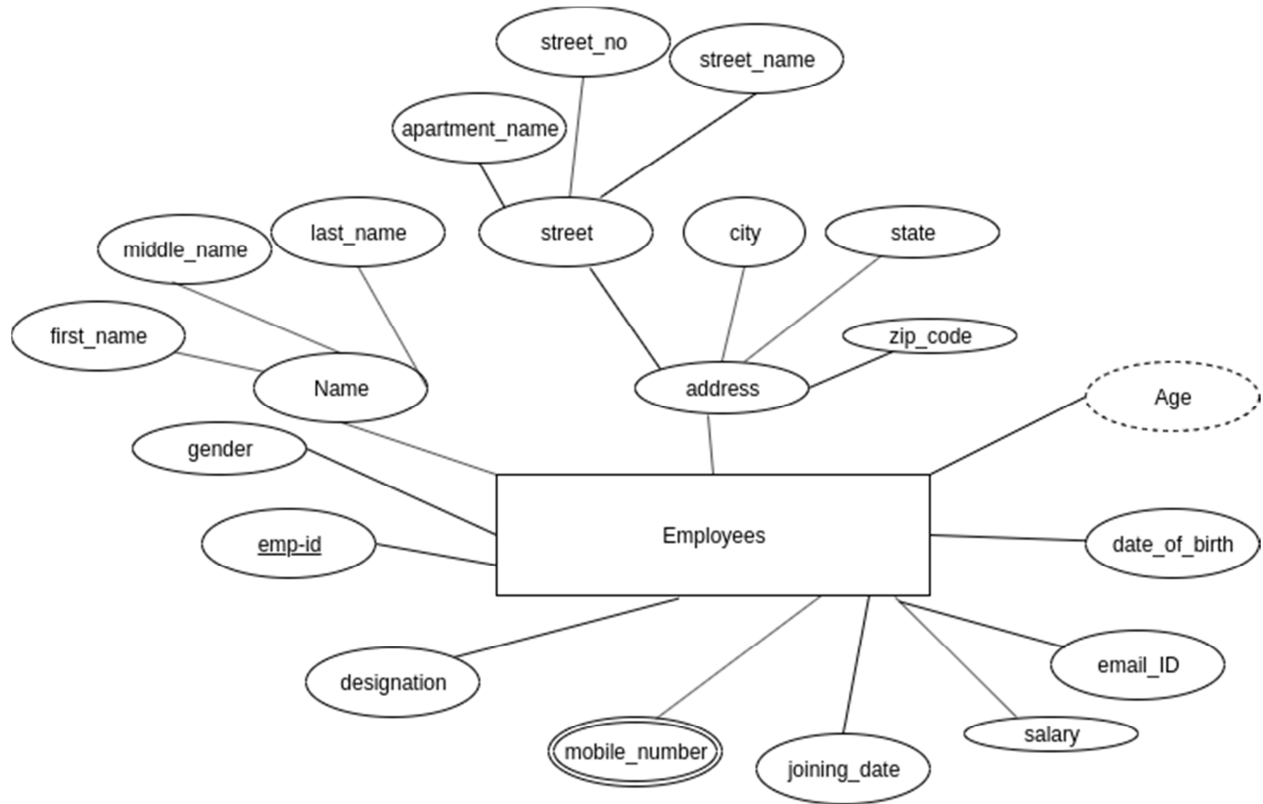


Birla Institute of Technology & Science, Pilani, K. K. BIRLA Goa campus  
Database Systems (CS F212)  
Second Semester 2019-2020  
Lab-2

Types of attributes (simple, composite, multivalued and derived),  
Data Query Language (DQL: Select),  
Pattern matching, Aggregate functions (Sum, Avg, Count, Min, Max)  
and Order by clause



Q.1 Create “Employees” table using information given in above diagram. Also handle multi-valued attribute.

**Constraints:**

1. Following attributes cannot be NULL:

- |                    |                 |
|--------------------|-----------------|
| • First Name       | • Zipcode       |
| • Last Name        | • Designation   |
| • Gender           | • Date of birth |
| • Apartment_number | • Mobile number |
| • Street name      | • Salary        |
| • City             | • Joining date  |
| • State            | • email id      |

2. An employee can have many mobile number.
3. A mobile number cannot be assigned to employee which is not present in “employees” table.

The details of the employees are given below in following format:

**Emp\_ID , Emp\_Name , Gender , Address , Zipcode , Designation, Emp\_D.O.B, Mobile number, Emp\_Salary , Date of Joining, Email ID**

- ‘2019XYZ0030’ , ‘Adarsh Sharma’ , ‘M’ , ‘A/380 ,M.G road ,Indore , M.P. ,452018,’Team Lead’, ‘19-12-1990’, ‘7012500001’, ‘7710000030,8985232632’, ‘80,000’, ‘01-07-2005’, ‘sharma.adrash90@yymail.com’
- ‘2019XYZ0031’, ‘Mohit Malviya’ , ‘M’ , ‘C/290 street-54 Vijaynagar Indore ,M.P.’, ‘452011,’Developer’, ‘12-03-1983’, ‘8982646300’, ‘50,000’, ‘10-08-2005’, ‘mohit\_malviya1203@yymail.com’
- ‘2019XYZ0032’, ‘Amit Kumar Rai’ , ‘M’, ‘A/181 abhinandan nagar ,Indore , M.P.’, ‘452010,’HR’, ‘15-12-1990’, ‘7012245201,9424075236’, ‘90,000’, ‘19-09-2005’. ‘amit\_rai1990@coolmail.com’
- ‘2019XYZ0033’, ‘Ayushi Jain’, ‘F’, ‘E-320 Friganj Ujjain, M.P.,452016’, ‘Developer’ , ‘01-07-1992’, ‘7012015121,8985632520’, ‘30,000’, ‘05-02-2007’, ‘jain\_aysuhi1992@coolmail.com’
- ‘2019XYZ0034’, ‘Anand Diwedi’, ‘M’, ‘A/661 street-58 Bhavarkuwa Indore, M.P.’, ‘452020,’Tester’, ‘02-10-1994’, ‘8865263452’, ‘30,000’, ‘15-04-2006’, ‘anand007@coolmail.com’
- ‘2019XYZ0035’, ‘Khushboo Rathi’, ‘F’, ‘C/230 street-280 Shastri nagar Ujjain, M.P.’, ‘452023,’Tester’, ‘05-01-1992’, ‘8458512332’, ‘30,000’, ‘20-06-2008’, ‘k\_rathi12@coolmail.com’

Q.2 Display Emp\_ID , Emp\_Name of all the employees.

Q.3 Display first name and last name of all female employees.

Q.4 Display distinct salary of employees.

Q.5 Display first and last name of all employees who work as HR.

Q.6 Display name of employees who joined company after 2006.**Hint: year(date) returns year mentioned in date.**

Q.7 Display age of youngest employee. **Hint: timestampdiff(year,date1, date2) : return difference between date1 and date2 in terms of number of years.**

Q.8 Display list of Emp\_ID , Emp\_Name and salary of employee which is sorted on the basis of salary in decreasing order.

Q.9 Display Emp\_ID, Emp\_Name and address of employee whose email address contains “@coolmail.com”

- Q.10 List name of employees whose date of birth is in between 01-01-1992 and 01-01-1995.
- Q.11 Calculate the sum of salaries of all the employees.
- Q.12 Display the count of no of male employees.
- Q.13 Display the maximum salary of employee.
- Q.14 Count the number of employees who are either developer or tester.
- Q.15 List the name of employees who have been working in company for more than 12 years.
- Q.16 Display employee IDs whose name starts with 'A' but does not have middle name  
**.Hint:"is null" checks whether attribute value is null or not. Eg <attribute name> is null.**
- Q.17 Display last name of employees with last name not beginning with letter 'C'.
- Q.18 Display name of employees whose first names have "i" in the fourth position.
- Q.19 Display full name of employees whose name start and ends with 'A'.**Hint : Use concat(str1,str2,...strN) to concatenate and coalesce(attr\_name,") to replace null with nothing**
- Q.20 Display names of three highest paid employees in the company.
- Q.21 Try to insert below entries in mobile number table:
- insert into mobile\_num values('2019XYZ0036',7012501235);
  - insert into mobile\_num values(null,7012502091);

### **Challenge Questions**

Analyze the issues and try to correct them.

- Q.22 List name of employees who have more than 2 mobile numbers.**Hint:Use group by and having clause.**
- Q.23 Company has planned to give bonus to those employees who has completed more than 12 years with company .Amount of bonus for an employee is  $0.01 * \text{salary} * (\text{today's date} - \text{joining date})$ .  
Calculate the total bonus given by company to its employees.