MANAV RACHNA UNIVERSITY, FARIDABAD
Department of Computers Science And Engineering

Course: B.Tech **Semester: III**
Session: 2022-23 **Subject: Database Management System**
(CSH202B-T)

Tutorial: 04

Learning Outcome CO1*: *Student will be able to understand Relational Algebra

1. You are given the following relational schema

   Employee(ename, street, city, salary, deductions)
   Works(ename, branch-name)
   Deputation(ename, org-name, returning date)
   Branch(branch-name, city)
   Manages(ename, manager-name)

Write relational algebra expressions to answer the following queries:

a) Retrieve the details of employees whose deductions are less than 10% of their salaries.
b) Retrieve the details of branches located in Mumbai.
c) Retrieve the details of employees whose deductions are less than 10% of their salaries and who live in Hyderabad.
d) Retrieve the details of employees whose salary is 10,000 or deductions are 5,000 but all of whom live in Mumbai.
e) Find the names of all employees.
f) Find the names of all those employees who work for the branch ABC.
g) Retrieve the names of employees whose deductions are less than 10% of their salaries.
h) Find the names of employees who are working or are on deputation.
i) Find the names of employees who are working and who live in Mumbai
j) Find the names of employees who are on deputation but do not live in Delhi.
k) Find the salaries of those employees who work in the branch XYZ. Use the cross product operation to do this.
l) Find the managers of those employees whose salary is 4 times the deductions. Use the cross product operation to do this.
m) Find the salaries of those employees who work in the branch XYZ. Use the join operation to do this.
n) Find the managers of those employees whose salary is 4 times the deductions. Use the join operation to do this.
o) Find the names of employees whose returning date is before 1st Jan 2014.
p) Find the names of employees who belong to organization 'ABC' and returning date is after 1st December 2014.