

# CS 348 - Homework 3

QBE and Datalog  
(100 Points)

Fall 2019

**Due on:**

Note: There will be a 10% penalty for each late calendar day. After five calendar days, the homework will not be accepted.

INTERNS(***InternID***, *InternName*)  
EMPLOYEES(***EmployeeID***, *EmployeeName*, *Designation*, *Salary*)  
PROJECTMEMBERS(***ProjectID***, ***EmployeeID***)  
PROJECTS(***ProjectID***, *Title*, *ManagerID*, *InternID*)

Note: All managers are employees. Questions 1-7 you are expected to write your responses in QBE and for questions 8-10 in Datalog.

1. Get the names of the interns not currently working on a project.

| Interns | InternID | Internname |
|---------|----------|------------|
|         | P._ID    |            |

| ProjectMembers | ProjectID | MemberID |
|----------------|-----------|----------|
| ¬              |           | _ID      |

2. Get the names of the employees who work on project 'Threat Modeling' but not on 'Gesture Recognition'.

| Employees | EmployeeID | EmployeeName | Designation | Phone |
|-----------|------------|--------------|-------------|-------|
|           | _ID        | P.           |             |       |

| Projects | ProjectID | Title             | ManagerID | InternID |
|----------|-----------|-------------------|-----------|----------|
|          | _ID       | 'Threat Modeling' |           |          |
|          | _ID       | 'Text Sum'        |           |          |

3. Get the names and designation of the employees who train an intern.

| Employees | EmployeeID | EmployeeName | Designation | Phone |
|-----------|------------|--------------|-------------|-------|
|           | _ID        | P.           | P.          |       |

| Projects | ProjectID | Title | ManagerID | InternID |
|----------|-----------|-------|-----------|----------|
|          |           |       | _ID       | _IID     |

4. Retrieve the details of the employees who work on more than 3 projects.

| Employees | EmployeeID | EmployeeName | Designation | Phone |
|-----------|------------|--------------|-------------|-------|
| P.        | _EID       |              |             |       |

| ProjectMembers | ProjectID | MemberID |
|----------------|-----------|----------|
|                | _PID      | G._EID   |

| Condition   |
|-------------|
| CNT._PID>=3 |

5. For the title 'Devops', get the number of people who work on that project.

| Projects | ProjectID | Title | ManagerID | InternID |
|----------|-----------|-------|-----------|----------|
|          |           |       | _ID       | _IID     |

| ProjectMembers | ProjectID | MemberID |            |
|----------------|-----------|----------|------------|
|                | G._PID    | ._MID    | P.CNT._MID |

6. Find the name of the managers who have trained the most number of interns.

| Employees | EmployeeID | EmployeeName | Designation | Phone |
|-----------|------------|--------------|-------------|-------|
|           | _EID       | P.           |             |       |

| Projects | ProjectID | Title | ManagerID | InternID |
|----------|-----------|-------|-----------|----------|
|          |           |       | G._EID    | _IID1    |
|          |           |       | G.        | _IID2    |

| Condition                   |
|-----------------------------|
| CNT._UNQ_IID1>CNT._UNQ_IID2 |

7. Delete the projects that have no managers

| Project | ProjectID | MemberID |
|---------|-----------|----------|
| D.      |           | ._ID     |

| Projects | ProjectID | Title | ManagerID | InternID |
|----------|-----------|-------|-----------|----------|
| $\neg$   |           |       | _ID       |          |