

**Metro State University**  
**ICS-311-50 Summer 2023**  
**Class Assignment 3**

employee (employee name, street, city)  
works (employee name, company name, salary)  
company (company name, city)  
manages (employee name, manager name)

For the database above, write a query to find those employees with no manager. Note that an employee may simply have no manager listed or may have a null manager. Write your query using an outer join and then write it again using no outer join at all. 5 points

```
Select e.employee_name  
From employee e  
Left join manages m  
On e.employee_name = m.employee_name  
Where m.manager_name is NULL;
```

```
SELECT e.employee_name  
FROM employee e  
WHERE e.employee_name NOT IN (SELECT m.employee_name FROM  
manages m WHERE m.manager_name IS NOT NULL);
```

2) Show how to define a view tot\_credits (year, num credits), giving the total number of credits taken by students in each year. 5points

```
CREATE VIEW [tot_credits] AS  
Select year, sum(num_credits)  
FROM students  
Group by year;
```