

1. Find the last names of all middle managers, i.e. those employees who supervise someone and are supervised by someone. You may assume that no employee supervises himself.

```
→ SELECT lname FROM EMPLOYEE el WHERE SUPER_SSN  
IS NOT NULL AND EXISTS (SELECT * FROM EMPLOYEE  
WHERE el.SSN=Super_SSN);
```

Wong
Wallace

2. Find the last names of those department managers who work on some project that is not controlled by their own department. Not all supervisors are department managers.

```
→ SELECT lname FROM EMPLOYEE WHERE NOT EXISTS  
(SELECT * FROM DEPARTMENT WHERE NOT EXISTS  
(SELECT * FROM PROJECT WHERE Dname=Department  
AND Super_SSN=SSN));
```

3. Find the last names of those employees who work in no project.

```
→ SELECT lname FROM EMPLOYEE WHERE NOT EXISTS  
(SELECT * FROM PROJECT WHERE NOT EXISTS  
(SELECT * FROM WORKS_ON WHERE Essn=SSN AND  
Pno=Project));
```

4. Find the first and the last names of those employees who work in all projects.

```
→ SELECT Fname, Lname FROM EMPLOYEE WHERE  
NOT EXISTS  
(SELECT * FROM PROJECT WHERE NOT EXISTS  
(SELECT * FROM DEPARTMENT WHERE NOT EXISTS  
(SELECT * FROM WORKS_ON WHERE  
Essn=SSN AND Pno=Project AND Essn=SSN AND  
Dname=Department)));
```