QBE Practice

Consider the following relational schema capturing data of a university:

Person (string ssn,
    string name_fname,
    string name_lname,
    Date birthdate)

Prevnames ( string ssn, string Pname_fname, string Pname_lname )
    foreign key Prevnames.ssn references Person

Faculty (string ssn,
    string rank,
    string phone,
    string office)
    foreign key Faculty.ssn references Person

Advises ( string fssn, string gssn )
    foreign key Advises.fssn references Faculty
    foreign key Advises.gssn references GradStu

Dept ( string dname,
    string address_street,
    string address_city,
    string address_state,
    int address_zip,
    int address_buildingCode)

Has_faculty ( string ssn, string dname )
    foreign key has_faculty.ssn references Faculty
    foreign key has_faculty.dname references Dept

GradStu (string ssn, string major, real gpa)
    foreign key GradStu.ssn references Person

1. Find all faculty (report ssns only) who are teaching in the CS department:
2. Find all faculty (report ssns and name) who are teaching in the CS department:

Has_faculty | ssn | dname  
| _s | CS

Faculty | ssn | rank | phone | office
| _s | |

Person | ssn | name_fname | name_lname | birthdate
| P._s | P. | P. |

3. Find the department of the faculty member formerly known as Charles Xavier

Has_faculty | ssn | dname
| _s | P.

PrevNames | ssn | Pname_fname | Pname_lname
| _s | Charles | Xavier

4. Find the faculty affiliated with all departments (report ssn and name)

Stage I: find faculty for whom there is at least one department they are not affiliated with

Dept | dname | address_street | address_city | address_state | address_zip | address_buildingCode
| _d | |

Has_faculty | ssn | dname  
| ¬ | _s | _d

Faculty | ssn | rank | phone | office
| _s | |

Not these | ssn
| _s

Stage II: complement the set of faculty found at Stage I
<table>
<thead>
<tr>
<th>Faculty</th>
<th>ssn</th>
<th>rank</th>
<th>phone</th>
<th>office</th>
<th>Not these</th>
<th>ssn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
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