

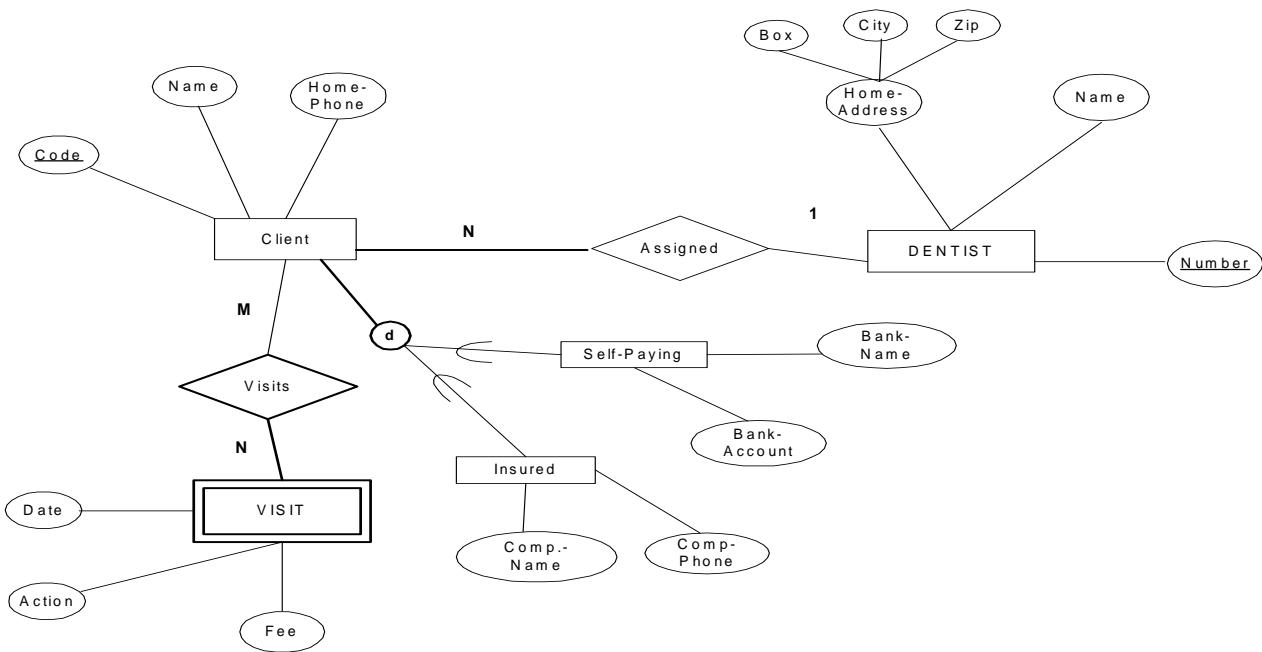
Name: _____

ID#: _____

Question 1:

(5 Points)

Convert the EER schema given below into a relational schema. Identify your primary keys and draw an arrow from each foreign key to the relational it is referring to.



Question 2:**(5 Points)**

Consider the following relations.

EMPLOYEE	FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
	John		Smith	123456789	1985-01-09	731 Fondren, Houston, TX	M	30000	333445555	6
	Franklin		Wong	333445555	1965-12-08	638 Voss, Houston, TX	M	40000	888665555	5
	Alicia		Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000	987654321	4
	Jennifer		Wallace	987654321	1941-06-20	291 Berry, Belaire, TX	F	43000	888665555	4
	Ramesh		Narayan	606884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
	Joyce		English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000	333445555	6
	Ahmad		Jabbar	987987987	1969-03-29	960 Dallas, Houston, TX	M	25000	987654321	4
	James		Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000	null	1

WORKS_ON	ESSN	PNO	HOURS
	123456789	1	32.5
	123456789	2	7.5
	606884444	3	40.0
	453453453	1	20.0
	453453453	2	20.0
	333445555	2	10.0
	333445555	3	10.0
	333445555	10	10.0
	333445555	20	10.0
	999887777	30	30.0
	999887777	10	10.0
	987987987	10	35.0
	987987987	30	5.0
	987654321	30	20.0
	987654321	20	15.0
	888665555	20	null

PROJECT	PNAME	PNUMBER	PLOCATION	DNUM
	ProductX	1	Belaire	5
	ProductY	2	Sugarland	5
	ProductZ	3	Houston	5
	Computerization	10	Stafford	4
	Reorganization	20	Houston	1
	Newbenefits	30	Stafford	4

Write the appropriate relational algebra expression to answer **the following**.

- i) Retrieve the **Last Name**, **SSN** and **Salary** of all **female** employees who work in department **4**.

- ii) List the **project name** and the **number of hours** worked on for all the projects that the Employee with SSN **453453453** works on.