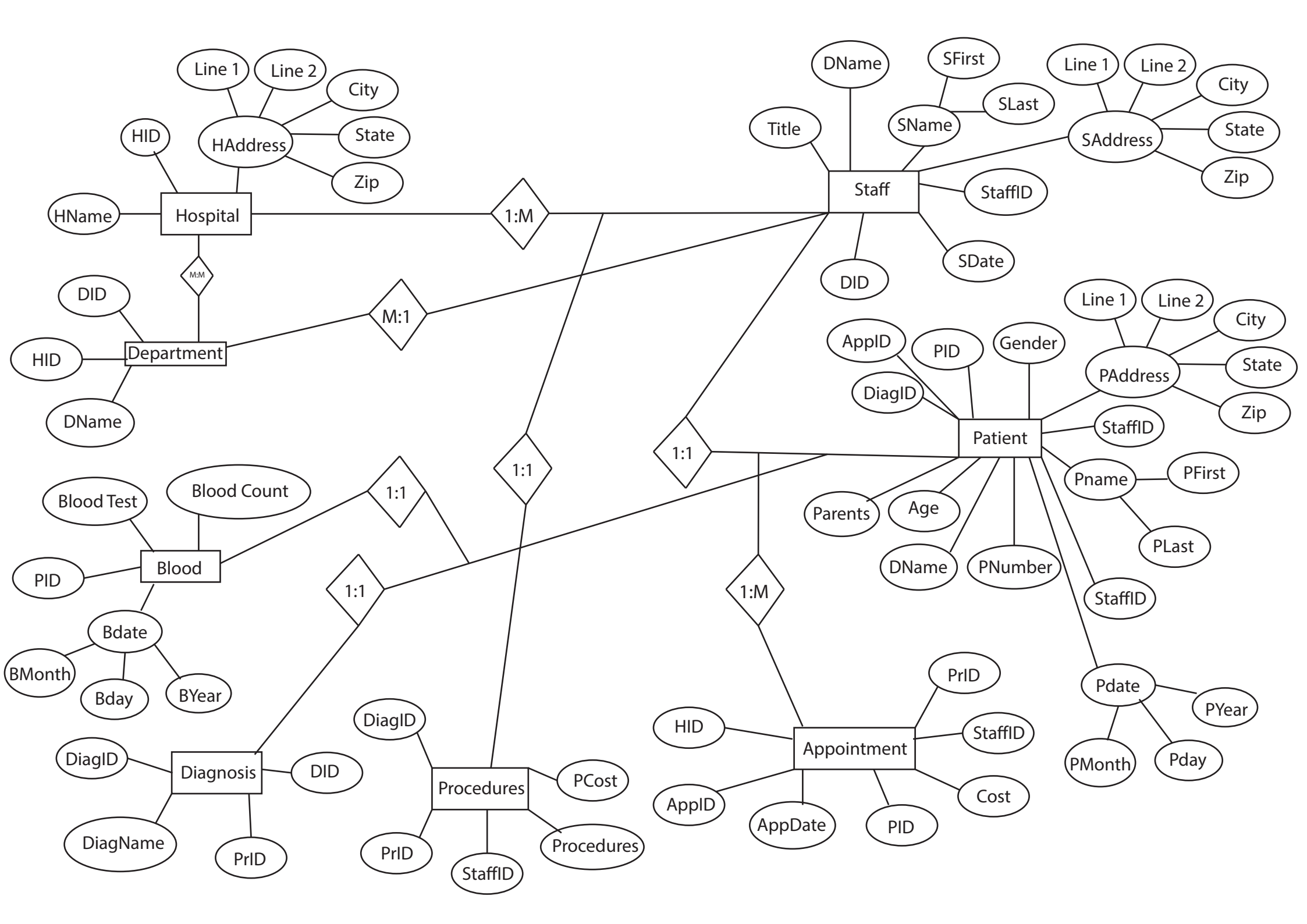
CS331 – PROJECT 1

Haiqiang Zou


Line 1
Line 2
City
State
Zip
HAddress
HID
HName
Hospital
1:M
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DID
Department
HID
DName
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DName
SFirst
SLast
SName
Title
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Parents
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Blood Test
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Blood
PID
Bdate
BMonth
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BYear
DiagID
Diagnosis
DID
DiagName
PrID
DiagID
Procedures
PCost
PrID
StaffID
Procedures
HID
Appointment
PrID
StaffID
AppID
AppDate
PID
Cost
Pdate
PYear
PMonth
Pday

Patient

PID	PFirst	Plast	Gender	Pnumber	Address	DiagID	StaffID	Pmonth	Pday	Pyear	Dname	AppID	Parents	Age
30001	Sandy	Johnson	Male	718-888-8888	42-95 Main Street, Flushing NY 11355	40001	20001	1	17	2013	Hematology	60001	Kevin	25
30002	Kenny	Smith	Male	718-444-4444	136-01 37 Rd, Flushing NY 11355	40002	20002	6	2	2012	Cosmetology	60002	Thomas	35
30003	Tina	Brown	Female	718-666-6666	155-12 Sanford Ave, Flushing NY 11355	40003	20003	2	16	2013	Pediatrics	60003	Linda	40
30004	Michelle	Zheng	Female	718-222-2222	38-01 Main St, Flushing NY 11355	40004	20004	10	6	2012	Cardiology	60004	Rebecca	60
30005	Michael	Thompson	Male	718-333-3333	37-08 Main Street, Flushing NY 11354	40005	20005	1	6	2013	Hematology	60005	Andrew	52

Staff

StaffID	StaffFirst	StaffLast	Title	Dname	Address	DID	Start Date
20001	Sally	Smith	Doctor	Hematology	321 5th Street, Queens NY 11355	10001	1/8/2013
20002	Tommy	Chen	Doctor	Cardiology	159 6th Street, Queens NY 11355	10002	1/25/2013
20003	Linda	Jackson	Doctor	Pediatrics	852 7th Street, Queens NY 11355	10003	2/2/2013
20004	Henry	Johnson	Doctor	Gastroenterlogy	902 8th Street, Queens NY 11355	10004	2/8/2013
20005	Adam	Zheng	Nurse	Hematology	102 9th Street, Queens NY 11355	10005	2/8/2013

Blood

PID	Bmonth	Bday	Byear	Blood Test	Blood Count
30001	6	25	2011	Good	65
30002	5	24	2012	Bad	25
30003	2	16	2013	Good	95
30004	8	20	2011	Bad	80
30005	9	3	2010	Bad	70

Hospital

HID	Hname	Haddress
1	Queens	36-52 Main Street, Flushing NY 11355
2	Manhattan	25 west 34 Street, NY NY 10038
3	Brooklyn	26 V Avenue, Brooklyn NY 10035
4	Bronx	352 153 Street, Bronx NY 11322
5	Staten Island	3625 1st Street, Staten Island NY 10052

Department

DID	Dname	HID
10001	Hematology	1
10002	Cardiology	2
10003	Pediatrics	3
10004	Gastroenterlogy	4
10005	Hematology	5

Appointments

AppID	AppDate	PID	StaffID	PrID	Cost	DID
60001	2/7/2013	30001	20001	30001	$60.00	10001
60002	2/10/2013	30002	20002	30002	$90.00	10002
60003	2/11/2013	30003	20003	30003	$125.00	10003
60004	2/12/2013	30004	20004	30004	$200.00	10004
60005	2/13/2013	30005	20005	30005	$1,500.00	10005

Diagnosis

DiagID	DiagName	PrID	DID
40001	Leukemia	50001	10001
40002	Broken Bone	50002	10002
40003	Cancer Left Lung	50003	10003
40004	Heart Disease	50004	10004
40005	Kidney Check	50005	10005

Procedures

PrID	StaffID	Procedures	PCost	DiagID
50001	20001	Blood test-red cell	130	40001
50002	20002	X-Ray-Left-Toe	230	40002
50003	20003	Chemotherapy	360	40003
50004	20004	Heart Cure	590	40004
50005	20005	Kidney Transplant	480	40005

Hospital (HID, HName, HAddress)
Department (DID, DName, HID)
Staff (StaffID, StaffFirst, StaffLast Title, SDate, Dname, Address, DID)
Patient (PID, PFirst, Plast, Gender, Age, Pnumber, PAddress, DiagID, StaffID, Pmonth, Pday, Pyear, Dname, AppID, Parents)
Appointment (AppID, AppDate, PrID, StaffID, Cost, PID, DID)
Diagnosis (DiagID, DiagName, PrID, DID)
Procedures (PrID, PCost, StaffID, Procedures, DID)
Blood (BloodTest, BloodCount, PID, Bmonth, Bday, Byear)

Questions

1. Identify all patients who visited Sally Smith today. Display the Patient name, date of visit, Diagnosis and Procedures.

σ StaffID=20001 ^ Pmonth=2 ^ Pday=17 ^ Pyear=2013(Patient) ----> A
σ A.DiagID=Diagnosis.DiagID (A X Diagnosis)----> B
σ B.PrID=Pro.PrID (B X Diagnosis)----> C
π Pfirst, Plast, Pdate, DiagName, Procedures(C) ----> D

2. Identify the Patients who visited the Cardiology department last week. Display the patient name, date of visit, diagnosis and procecures.

σ Dname='Cardiology' (Patient) ----> A
π Pfirst,Plast,Pdate, DiagID, Dname(A) ----> B
σ B.DiagID=Diag.DiagID (B X Diagnosis)----> C
σ C.PrID=Pro.PrID (C X Procedures)----> D
π Pfirst,Plast,Pmonth,Pday,Pyear, Dname, DiagName, Procedures(D) ----> E

3. Identify yesterday's blood test results for patient Tina Brown. Display the patient name, blood test, and blood count.

σ Pfirst = 'Tina' ^ Plast = 'Brown' ^ Pmonth= 2 ^ Pday=16 ^ Pyear=2013 (Patient) ----> A
σ A.PID=Blood.PID (A X Blood)----> B
π Pfirst,Plast,Pdate, Blood Test, Blood Count(B) ----> C

4. Identify the red cell blood count for patient Tina Brown for the last five years. Display the blood test and blood count

σ Pfirst='Tina' ^ Plast='Brown' ^ Pyear=2008 v Pyear=2009 v Pyear=2010 v Pyear=2011 v Pyear=2012 (Patient) ----> A
σ Pmonth=Bmonth ^ Pday=Bday ^ Pyear=Byear ^P.PID=B.PID (A X Blood) ----> B
π blood test, blood count (B) ----> C

5. Identify the red cell blood count for patient Tina Brown parents. Display the blood test and blood count

σ Pfirst='Tina' ^Plast='Brown' (Patient) ---> A
σ Pfirst=A.Parents (A X Patients) --->B
σ B.PID=Blood.PID (B X Blood) ---> C
π blood test, blood count (C) ----> D

6. Create a bill for patient Tina Brown for procedures performed yesterday. Display the patient name, date, procedure name and cost

σ Pfirst='Tina' ^Plast='Brown' (Patient) ---> A
σ P.DiagID=Diag.DiagID (A X Diagnosis) ----> B
σ Diag.PrID=Pro.PrID (B X Procedures) ----> C
π Pfirst,Plast,Pmonth,Pday,Pyear,Procedures, Pcost(C) ---> D

7. Identify all patients who received a kidney transplant last year. Display the patient name, date of service and doctor who performed the procedure

σ P.DiagID=Pro.DiagID ^ Procedures='Kidney Transplant' (Patient X Procedures) ---> A
σ Pro.StaffID=Staff.StaffID (A X Staff) ----> B
π Pfirst,Plast,Pmonth,Pday,Pyear,StaffFirst,StaffLast(B) ----> C

8. Identify staff assigned to the gastroenterology department. Display the staff name, title and start date

σ Dname='Gastroenterology' (Staff) ---> A
π StaffFirst,StaffLast,Title, Sdate (A) ----> B

9. Identify future appointments for patient Tina Brown. Display the doctor name, date of appointment and department.

σ Pfirst='Tina' ^Plast='Brown' (Patient) ----> A

σ P.PID=App.PID (A X Appointment) ----> B

σ AppDate > currentdate (B) ----> C

σ App.StaffID=Staff.StaffID (C X Staff) ----> D

π StaffFirst,StaffLast, AppDate, Dname (D) ----> E

10. Identify patients without medical appointments (services performed) last year. Display the patient name and phone numbe

σ Pyear=2012 (Patient) ----> A

σ AppID=null (A) ----> B

π Pfirst,Plast,Pnumber(B) ---> C