

Homework: Normalization

- Convert the schemas in the questions below into BCNF. Make sure that your decomposition is lossless.
- Make sure that you underline the key of every relation you produce.
- Answer **all** the questions although I may check only some of them for grading.

(1)

HouseSale (houseID, agentID, dateSold, commissionRate, interestRate)

Where:

dateSold \rightarrow *interestRate*

agentID \rightarrow *commissionRate*

houseID \rightarrow *dateSold*

- What is the highest normal form that the above relation satisfies? _____
- Decomposition into BCNF:

(2)

Faculty (facultyNum, deptNum, officeNum, rank, dateHired, salary)

Where:

$officeNum \rightarrow deptNum$

$rank, dateHired \rightarrow salary$

- What is the highest normal form that the above relation satisfies? _____
- Decomposition into BCNF:

(3)

Lots (propertyID, county, lotNum, area, price, taxRate)

Where:

$county, lotNum \rightarrow propertyID, area, price, taxRate$

$county \rightarrow taxRate$

$area \rightarrow price$

- What is the highest normal form that the above relation satisfies? _____
- Decomposition into BCNF: