

CSCI 4127/5127 Database Advanced Topics
Normalization

2.8.12

Given the following table called **Account Balance**:

Account num	Last Name	Address	Trans Date and time	Trans Amount
123456	Smith	10 Elm St	1-1-11 09:30	\$125.00
123456	Smith	10 Elm St	2-5-11 14:20	\$350.00
246810	Gonzales	13 Oak Rd	1-9-11 23:15	\$500.00
357911	Smith	47 Pat Dr	6-7-11 10:35	\$475.00

You may assume for any account number there is one last name and address

1. Identify the dependencies in this table (for example: if attribute x is a primary key, attributes y and z are dependent upon attribute x, etc)

Trans Date and time, Trans Amount

2. Which normal form is the table currently in (unnormalized, 1st, 2nd, or 3rd)? Justify your answer.

unnormalized, there is repeating data within Account num,
Last Name, & Address

3. Show the ERD diagram after normalizing to the next normal form (if possible). Just show the entities and relationships (including cardinality), do not show the attributes.



4. Show the resulting tables and attributes for the ERD in question 3 above.

Person

Num	Last Name	Address
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Transaction

ID	create ID	Date And Time	Trans Amount
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5. Can the result from questions 3. and 4. be considered to be in third normal form? Justify your answer.

Yes, all transitive properties have been eliminated.