**CIS 310 - DATABASE DESIGN**

**ASSIGNMENT #6**

Worth 50 points

Names of student: \_\_Zoe Druen\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write your answers below. Save the file as A6\_Your\_First\_Name\_Your\_Last\_Name.pdf on the J drive. For example, A6\_John\_Brown.pdf. Submit the **pdf** file to Blackboard by the due date.

Given the dependency diagram answer the following questions.

C1 C2 C3 C4 C5 C6 C7

1. Identify the indicated dependencies (as desired, partial, or transitive) on the diagram above and briefly discuss/explain each of them below using the functional dependency: the determinant and the dependent. For example, C6 → C7, or C4 → C5.

Desired dependency:

(C1, C4) → C5, C6

C1 and C4 is the composite PK.

C1 and C4 are the determinants.

C5 and C6 are the dependents.

Partial dependency:

1. C1 → C2, C3

C1 is the determinant.

C2 and C3 are the dependents.

1. C4 → C5

C4 is the determinant.

C5 is the dependent.

Transitive dependency:

C6 → C7

C6 is the determinant.

C7 is the dependent.

1. Create a database whose tables are at least in 2NF, showing the dependency diagrams for each table.

(C1, C4, C5, C6, C7)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C1 | C4 | C5 | C6 | C7 |

Transitive dependency

(C1, C2, C3)

|  |  |  |
| --- | --- | --- |
| C1 | C2 | C3 |

(C4, C5)

|  |  |
| --- | --- |
| C4 | C5 |

1. Create a database whose tables are at least in 3NF, showing the dependency diagrams for each table. Indicate the PK and FK(s) for each table. Which tables the FKs point to?

(C1, C4, C5, C6)

|  |  |  |  |
| --- | --- | --- | --- |
| C1 PK | C4 PK | C5 | C6 FK |

(C6, C7)

|  |  |
| --- | --- |
| C6 PK, FK | C7 |

The PK C6 in this table is the FK pointing to (C1, C4) table.

(C1, C2, C3)

|  |  |  |
| --- | --- | --- |
| C1 PK, FK | C2 | C3 |

The PK C1 in this table is the FK pointing to (C1, C4) table.

(C4, C5)

|  |  |
| --- | --- |
| C4 PK, FK | C5 |

The PK C4 in this table is the FK pointing to (C1, C4) table.