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--===============================CIS 310 ASSIGNMENT 5===============================

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STUDENT ID: 5262256

SUBMISSION DATE: 2/18/2024

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Note all dependency diagram entity PKs should be **bolded and underlined**. Dependency diagram using Paint, Word, or OneNote are preferable for legibility reasons. Drawing by hand is allowed, however, legibility concerns may lead to points deductions.

**Part 1.** Using the descriptions of the attributes given in the figure, convert the ERD shown in into a dependency diagram containing entities in at least 3NF.   
Diagram

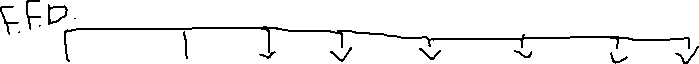
Description automatically generated

For full credit, normalize similar to the process we walked through and  
**include and clearly label all the dependency types in the initial dependency diagram (fully functional, partial, and transitive)  
all intermediate normalization steps/stage** **all the normal forms (1NF, 2NF, 3NF)**    
for every entity in every stage. Work one entity at a time.

Include all applicable entities in each stage, unless you intend to remove them from the database design in that stage. This means, if ATTENDEE is already in 3NF in stage 1 and do not need further normalization, they should still be included in the following stages as part of the functional database design.

To help you start on the right track. The correct **initial** dependency diagram with all the dependencies arrows (not labelled) is attached. This is best used **after** you come up with your own initial dependency diagram based on the question prompt.

**1NF: (REGISTRATION, ATTENDEE already 3NF)**



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Pres\_SessionNum** | **Pres\_Order** | Pres\_Date | Pres\_Room | Pres\_Title | Pres\_AuthorID | Pres\_FName | Pres\_LName |



**2NF: (REGISTRATION, ATTENDEE already 3NF) No P.D.**



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pres\_SessionNum** | **Pres\_Order** | Pres\_Title | Pres\_AuthorID | Pres\_FName | Pres\_LName |



|  |  |  |
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| ***Pres\_SessionNum*** | Pres\_Date | Pres\_Room |

**3NF (PRESENTATION already 3NF now): No P.D. & T.D.**



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pres\_SessionNum** | **Pres\_Order** | Pres\_Title | Pres\_AuthorID | Pres\_FName | Pres\_LName |

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| ***Pres\_SessionNum*** | Pres\_Date | Pres\_Room |



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| ***Pres\_SessionNum*** | ***Pres\_Order*** | ***Att\_Num*** | Reg\_Date |

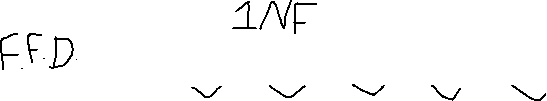


|  |  |  |  |
| --- | --- | --- | --- |
| **Alt\_Num** | Att\_FName | Att\_LName | Att\_Status |

**Part 2.** Use the dependency diagram below to work the following problems.

Chart, box and whisker chart

Description automatically generated



1. Label all dependency types: fully functional, partial, and transitive dependencies.
2. Break up the dependency diagram shown in above figure to at least 2NF.
3. Modify the dependency diagrams you created in part b to produce a set of entities that are in 3NF.

**2NF: No P.D.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A** | **B** | E | F | G |



|  |  |
| --- | --- |
| ***A*** | D |

|  |  |
| --- | --- |
| ***B*** | C |

**3NF: No P.D. & T.D.**



|  |  |  |  |
| --- | --- | --- | --- |
| **A** | **B** | *E (FK)* | F |



|  |  |
| --- | --- |
| ***A*** | D |

|  |  |
| --- | --- |
| ***B*** | C |



|  |  |
| --- | --- |
| ***E*** | G |