CSE 370– Database Systems

QUIZ 4 (Set A)

Summer 2024

Marks

Full Name (in Block Letter): _____

ID: _____ Section: ___ Signature: _____

Date:_____ Total Marks: 20 Time: 20 minutes

Consider the following relation:

University_Offered_Course (<u>universityID</u>, <u>courseCode</u>, <u>sectionNo</u>, <u>Semester</u>, universityName, type, establishmentYear, motto, creditFee, department, credits, courseTitle, facultyInitial, facultyName, facultyEmail, rating, totalStudent)

The primary key is underlined. Relation has the following additional functional dependencies (FDs):
FD1: universityID → universityName, type, establishmentYear, motto, creditFee
FD2: facultyInitial → facultyName, facultyEmail
FD3: courseCode, sectionNo, Semester → facultyInitial, facultyName, facultyEmail
FD4: courseCode → department, credits, courseTitle
FD5: type, establishmentYear → creditFee

a. **Explain** if the above relation is in the first normal form (1NF) or not? If not, **apply** 1NF normalization. [2 Mark : 1 for identification + 1 for explanation]

b. **Explain** if the relation(s) of no (a) is/are in the second normal form (2NF) or not? If not, **apply** 2NF normalization. [8 Marks : 2 for identification and explanation + 6 for decomposed relations]

c. **Explain** if the relation(s) of no (b) is/are in the third normal form (3NF) or not? If not, **apply** 3NF normalization. [10 Marks : 2 for identification and explanation + 8 for decomposed relations]

Solution:

https://drive.google.com/file/d/120hEOG3SVKtW3iUBxLaHcU_NPvOpRAoz/view?usp=sharing

Ignore the arrows