**Course Info**: Database Development and Administration FALL-2023-71478-INFT-6203-F01

**Instructor:** Dr. Abdus Salam Siddique

**Student Name:** Seyed Mohammad Sanjari Pirmahalleh

**T#:** T01294563

**Assignment Number:** Assignment 6, Week 7

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**Question 1 :** Consider the relation:

BOOK (Book\_Name, Author, Edition, Year)

with the data:

|  |  |  |  |
| --- | --- | --- | --- |
| Book\_Name | Author | Edition | Copyright\_Year |
| DB\_fundamentals | Navathe | 4 | 2004 |
| DB\_fundamentals | Elmasri | 4 | 2004 |
| DB\_fundamentals | Elmasri | 5 | 2007 |
| DB\_fundamentals | Navathe | 5 | 2007 |

Based on a common-sense understanding of the above data, what are the possible candidate keys of this relation?

* Book\_Name + Author
* Book\_Name + Edition

**Question 2 :** Consider the following table structure for a database that stores information about students and their courses:

Student Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| StudentID | StudentName | CourseID | CourseName | Instructor |
| 1 | Alice | 101 | Mathematics | Dr. Johnson |
| 2 | Bob | 101 | Mathematics | Dr. Johnson |
| 3 | Alice | 102 | Physics | Dr. Smith |
| 4 | Charlie | 103 | Chemistry | Dr. White |
| 4 | Charlie | 103 | Chemistry | Dr. White |
| 3 | Alice | 102 | Physics | Dr. Smith |

Apply 3rd normalization techniques to improve the table structure.

Please Find My Answer in the next page

Student Table:

|  |  |
| --- | --- |
| StudentID | Student Name |
| 1 | Alice |
| 2 | Bob |
| 3 | Alice |
| 4 | Charlie |

Course Table:

|  |  |  |
| --- | --- | --- |
| CourseID | CourseName | Instructor |
| 101 | Mathematics | Dr. Johnson |
| 102 | Physics | Dr. Smith |
| 103 | Chemistry | Dr. White |

StudentCourse Table:

|  |  |
| --- | --- |
| StudentID | CourseID |
| 1 | 101 |
| 2 | 101 |
| 3 | 102 |
| 4 | 103 |
| 4 | 103 |
| 3 | 102 |