Jessica Hoffman

CIS 310-02 8/29/17

Exercise 11 pg. 34 Parts A & B

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| STU\_ID | STU\_NAME | CLASS\_CODE | CLASS\_NAME | CLASS\_CREDHRS | INSTR\_NAME | CLASS\_DAYS | CLASS\_TIMES | ROOM |
| 5059976 | Jessica Hoffman | CIS 310 | Database Design | 3 | Guan | MW | 1:00 PM | BUS 008 |
| 5059976 | Jessica Hoffman | CIS 320 | Systems Analysis and Design | 3 | Barker | TTh | 9:30 AM | BUS 008 |
| 5059976 | Jessica Hoffman | CIS 350 | IT Infrastructure Technologies | 3 | Zurada | TTh | 11:00 AM | BUS 008 |
| 5059976 | Jessica Hoffman | COMM 112 | Business Communications | 3 | Slawsky |  |  | Dist Ed. |
| 7996043 | Jane Doe | ECON 202 | Macroeconomics | 3 | Smith | MWF | 9:30 AM | BUS 104 |
| 7996043 | Jane Doe | ACCT 202 | Managerial Accounting | 3 | Nava | MWF | 11:00 AM | BUS 208 |
| 7996043 | Jane Doe | CHEM 201 | Chemistry 3 | 3 | Cain | TTh | 1:00 PM | NS 100 |
| 7996043 | Jane Doe | ACCT 201 | Financial Accounting | 3 | Parks | TTh | 2:30 PM | BUS 106 |
| 2349995 | John Smith | ECON 202 | Macroeconomics | 3 | Smith | MW | 4:00 PM | BUS 301 |
| 2349995 | John Smith | ENG 102 | English 2 | 3 | Harry | TThF | 12:30 PM | DA 308 |
| 2349995 | John Smith | MATH 102 | Algebra 2 | 3 | Morgan | TTh | 2:30 PM | DA 202 |
| 2349995 | John Smith | BIO 101 | Biology 1 | 3 | Gilbert | F | 9:30 AM | NS 300 |

Part C

1. The sources of redundancy include the fields STU\_ID, STU\_NAME, CLASS\_CODE, CLASS\_NAME, CLASS\_CREDHRS, and ROOM. This data model leads to redundancy and inconsistencies. There is too much repeated information; this table could be transformed into an Enrollment table. Assuming that STU\_ID is the Primary Key in a Student table that contains a STU\_NAME attribute, STU\_NAME is unnecessary here as a column. A Class table should contain all the rest of the attributes, and a CLASS\_CODE or ID column could replace them all here and reference the Class table.
2. An Update Anomaly would develop if the CLASS\_CODE for Macroeconomics needed to be updated. Since the data for Macroeconomics isn’t centralized in a single entity in a Class table, the CLASS\_CODE would need to be updated for Jane and John’s class schedules to be correct here. The need to change identical data in multiple locations leads to data inconsistencies and devalues data integrity. It is inappropriate for the update to occur on this table.