A1

Timothy Mahan 8/29/2016

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| STU\_ID | STU\_NAME | CLASS\_CODE | CLASS\_NAME | CLASS\_CREDHRS | INSTR\_NAME | CLASS\_DAYS | CLASS\_TIMES | ROOM |
| 1843696 | Timothy Mahan | 1660 | ACCT 202 | 3 | Blanford | MoWe | 8:00 AM - 9:15 AM | BUS 123 |
| 1843696 | Timothy Mahan | 4748 | CIS 320 | 3 | Barker | MoWe | 9:30 AM - 10:45 AM | BUS 008 |
| 1843696 | Timothy Mahan | 1715 | CIS 310 | 3 | Guan | MoWe | 11:00 AM - 12:15 PM | BUS 008 |
| 1843696 | Timothy Mahan | 9520 | CIS 200 | 3 | Wright | TuTh | 7:00 AM - 8:15 PM | BUS 008 |
| 1234567 | Christopher Meany | 1700 | MILS 405 | 3 | ROTC | MoWeFri | 6:30 AM - 7:30 AM | TBA |
| 1234567 | Christopher Meany | 1800 | CIS 320 | 3 | Barker | MoWe | 9:30 AM - 10:45 AM | BUS 008 |
| 1234567 | Christopher Meany | 1900 | CIS 310 | 3 | Guan | MoWe | 2:30 PM - 3:45 PM | BUS 101 |
| 1234567 | Christopher Meany | 1659 | ACCT 201 | 3 | Blanford | Mo | 5:30 PM - 8:15 PM | DAV 303 |
| 1234567 | Christopher Meany | 1000 | HIST 211 | 3 | Hist | TuTh | 8:00 AM - 9:15 AM | DAV 104 |
| 1234568 | Chase Zimmer | 1001 | MGMT 340 | 3 | Garret | MoWe | 11:00 AM - 12:15 PM | BUS 123 |
| 1234568 | Chase Zimmer | 1002 | CIS 310 | 3 | Guan | MoWe | 2:30 PM - 3:45 PM | BUS 101 |
| 1234568 | Chase Zimmer | 1003 | CIS 350 | 3 | Zurada | TuTh | 11:00 AM - 12:15 PM | BUS 008 |
| 1234568 | Chase Zimmer | 1004 | ACCT 430 | 3 | Paybe | TuTh | 2:30 PM - 3:45 PM | BUS 205 |
| 1234568 | Chase Zimmer | 1005 | ACCT 411 | 3 | Levitan | TuTh | 4:00 PM - 5:15 PM | BUS 216 |

1. In this example, the major sources of redundancy in our table are:

* Stu\_ID – Repeats in the same table for every course student takes
* Stu\_Name – Repeats in the same table for every course student takes
* Class\_Code – Repeats in the same table for every student taking the specific course
* Class\_Name – Repeats in the same table for every student taking this course type
* Class\_Credhrs – Repeats in the same table for every class worth 3 credit hours
* Instr\_Name – Repeats for every class ID in which they instruct
* Class\_Days – Repeats for numerous class codes
* Class\_Times – Repeats for numerous class codes
* Room – Repeats for numerous classes throughout a given day.

1. Because so many types of data exist within the same table, we see a lot of sources of redundancy, which can cause different types of anomalies within a database; one such being an update anomaly. If the INSTR\_NAME needed to change for a course such as the CIS 320 course with the Class Code of 1715 (let’s say Dr. Barker is on sabbatical this semester), then each record containing the CLASS\_CODE of 1715 with Dr. Barker as the instructor would need the INSTR\_NAME field updated. Instead of being able to simply update the course information once in a table with all relevant course information, you would have to write code to sift through the large table we have containing a lot of redundant data and update that way, or if you’re using a less sophisticated system, you would have to update the data manually. Having to sort and update so many records leaves a potential for data integrity problems if the updates aren’t completed with perfection or if the code to update all of the records is flawed in some way.