CIS 310-02 Assignment 4

Jessica Hoffman

Part 1:

|  |  |  |
| --- | --- | --- |
| **TABLE** | **PRIMARY KEY** | **FOREIGN KEY(S)** |
| EMPLOYEE | EMP\_CODE | STORE\_CODE |
| STORE | STORE\_CODE | REGION\_CODE, EMP\_CODE |
| REGION | REGION\_CODE | None |

1.

2.

|  |  |  |
| --- | --- | --- |
| **TABLE** | **ENTITY INTEGRITY** | **EXPLANATION** |
| EMPLOYEE | YES | There are no duplicate or null values in the EMP\_CODE column |
| STORE | YES | There are no duplicate or null values in the STORE\_CODE column |
| REGION | YES | There are no duplicate or null values in the REGION\_CODE column |

3.

|  |  |  |
| --- | --- | --- |
| **TABLE** | **REFERENTIAL INTEGRITY** | **EXPLANATION** |
| EMPLOYEE | YES | The values in the STORE\_CODE FK column exist in the STORE table’s PK column. Null values would be acceptable in the FK column but there are none. |
| STORE | YES | The values in the REGION\_CODE and EMP\_CODE columns exist in the PK columns for the REGION table and EMPLOYEE table respectively. Null values would be acceptable in the FK columns but there are none. |
| REGION | NA | NA |

Part 2: Natural Join of Student and Professor

Step 1: Product

|  |  |  |  |
| --- | --- | --- | --- |
| **STU\_CODE** | **STUDENT.PROF\_CODE** | **PROFESSOR.PROF\_CODE** | **DEPT\_CODE** |
| 100278 |  | 1 | 2 |
| 100278 |  | 2 | 6 |
| 100278 |  | 3 | 6 |
| 100278 |  | 4 | 4 |
| 128569 | 2 | 1 | 2 |
| 128569 | 2 | 2 | 6 |
| 128569 | 2 | 3 | 6 |
| 128569 | 2 | 4 | 4 |
| 512272 | 4 | 1 | 2 |
| 512272 | 4 | 2 | 6 |
| 512272 | 4 | 3 | 6 |
| 512272 | 4 | 4 | 4 |
| 531235 | 2 | 1 | 2 |
| 531235 | 2 | 2 | 6 |
| 531235 | 2 | 3 | 6 |
| 531235 | 2 | 4 | 4 |
| 531268 |  | 1 | 2 |
| 531268 |  | 2 | 6 |
| 531268 |  | 3 | 6 |
| 531268 |  | 4 | 4 |
| 553427 | 1 | 1 | 2 |
| 553427 | 1 | 2 | 6 |
| 553427 | 1 | 3 | 6 |
| 553427 | 1 | 4 | 4 |

Step 2: Select

|  |  |  |  |
| --- | --- | --- | --- |
| **STU\_CODE** | **STUDENT.PROF\_CODE** | **PROFESSOR.PROF\_CODE** | **DEPT\_CODE** |
| 128569 | 2 | 2 | 6 |
| 512272 | 4 | 4 | 4 |
| 531235 | 2 | 2 | 6 |
| 553427 | 1 | 1 | 2 |

Step 3: Project

|  |  |  |
| --- | --- | --- |
| **STU\_CODE** | **PROF\_CODE** | **DEPT\_CODE** |
| 128569 | 2 | 6 |
| 512272 | 4 | 4 |
| 531235 | 2 | 6 |
| 553427 | 1 | 2 |