Caleb Hayden

CIS 310-01

Assignment 4

Due 9/18/17

Part 1.

1.

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

2.

|  |  |  |
| --- | --- | --- |
| TABLE | ENTITY INTEGRITY | EXPLANATION |
| EMPLOYEE | Yes | All PK values are unique, there are no null PK values |
| STORE | Yes | All PK values are unique, there are no null PK values |
| REGION | Yes | All PK values are unique, there are no null PK values |

3.

|  |  |  |
| --- | --- | --- |
| TABLE | REFERENTIAL INTEGRITY | EXPLANATION |
| EMPLOYEE | Yes | All STORE\_CODE values are valid in the STORE\_CODE field of the STORE table. |
| STORE | Yes | All EMP\_CODE values are valid in the EMP\_CODE field of the EMPLOYEE table. All REGION\_CODE values are valid in the REGION\_CODE field of the REGION table. |
| REGION | N/A | N/A |

Part 2.

Tables used

Table Name: STUDENT

|  |  |
| --- | --- |
| STU\_CODE | PROF\_CODE |
| 100278 |  |
| 128569 | 2 |
| 512272 | 4 |
| 531235 | 2 |
| 531268 |  |
| 553427 | 1 |

Table Name: PROFESSOR

|  |  |
| --- | --- |
| PROF\_CODE | DEPT\_CODE |
| 1 | 2 |
| 2 | 6 |
| 3 | 6 |
| 4 | 4 |

Natural join step 1: Product

|  |  |  |  |
| --- | --- | --- | --- |
| STU\_CODE | PROF\_CODE | PROFFESOR.PROF\_CODE | PROFESSOR.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 |

Natural join step 2: Select

|  |  |  |  |
| --- | --- | --- | --- |
| STU\_CODE | PROF\_CODE | PROFFESOR.PROF\_CODE | PROFESSOR.DEPT\_CODE |
| 100278 | 2 | 2 | 6 |
| 512272 | 4 | 4 | 4 |
| 531235 | 2 | 2 | 6 |
| 553427 | 1 | 1 | 2 |

Natural join step 3: Project

|  |  |  |
| --- | --- | --- |
| STU\_CODE | PROF\_CODE | DEPT\_CODE |
| 100278 | 2 | 6 |
| 512272 | 4 | 4 |
| 531235 | 2 | 6 |
| 553427 | 1 | 2 |