**CGS 4307**

**Angry Nerds**

**Project Normalization**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| StudentID | ProfessorID | CourseID | Cname | FirstName | LastName | City | State | Street | StreetNumber |
| Major | Email | Phone | Zipcode | StudentGPA | Gname | Cdescription |  |  |  |

(StudentID, ProfessorID, CourseID) 🡪 (FirstName, LastName, City, State, Street, StreetNumber, Major, Email, Phone, Zipcode, StudentGPA, Gname)

**2NF**

(StudentID)🡪(FirstName, LastName, City, Street, StreetNumber, State, Zipcode, Major, Email, Phone, StudentGPA)

(ProfessorID)🡪(FirstName, LastName, City, Street, StreetNumber, State, Zipcode, Email, Phone)

(CourseID)🡪(Cdescription, Cname)

(StudentID, ProfessorID)🡪(Gname)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| StudentID | FirstName | LastName | City | Street | StreetNumber | State | Zipcode | Major | Email | Phone | StudentGPA |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ProfessorID | FirstName | LastName | City | Street | StreetNumber | State | Zipcode | Email | Phone |

|  |  |  |
| --- | --- | --- |
| CourseID | Cdescription | Cname |

|  |  |  |
| --- | --- | --- |
| ProfessorID | StudentID | Gname |

**3NF**

To reduce redundancy, we are going to place the address information in a separate table. **Bold indicates a foreign key.**

(StudentID)🡪(FirstName, LastName, Major, Email, Phone, StudentGPA, **Zipcode**)

(ProfessorID)🡪(FirstName, LastName, Email, Phone, **Zipcode**)

(CourseID)🡪(Cdescription, Cname)

(StudentID, ProfessorID)🡪(Gname)

(Zipcode) 🡪(City, Street, StreetNumber, State)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Zipcode | Street | StreetNumber | State | City |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| StudentID | FirstName | LastName | **Zipcode** | Major | Email | Phone | StudentGPA |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ProfessorID | FirstName | LastName | **Zipcode** | Email | Phone |

|  |  |  |
| --- | --- | --- |
| CourseID | Cdescription | Cname |

|  |  |  |
| --- | --- | --- |
| ProfessorID | StudentID | Gname |