Database Analysis Worksheet

# Step 1: Identify Entities, Attributes, and Primary Keys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity |  | Attributes |  | Primary Key |
| Students |  | **StudentId**, FirstName, MiddleInitial, LastName, DateOfBirth, SocialSecurityNumber, Address, ZipCode, HomePhone, BirthDate, Gender, *CourseNum* |  | StudentId |
| Courses |  | **CourseNum**, *SubjectID ,* CourseTitle, DifficultyLevel, InstructorName |  | CourseNum |
| Subject |  | **SubjectId**, SubjectDescription |  | SubjectId |

# Step 2: Define Relationships Between the Entities

|  |  |  |  |
| --- | --- | --- | --- |
| Entity 1 | Entity 2 | How Related?  (2 sentences) | Relationship Type (1:1, 1:N, M:N) |
| Course | Students | A course can be taken by several students.  A student can take many courses. | M:N |
| Course | Subject | A course can belong to more than one subject area.  Several courses can belong to the same subject area. | M:N |

# Step 3: Draw your Entity-Relationship Diagram (Hand-drawn is okay!!!)

Subjects

Courses

Students

N N N N

# Step 4: Specify Tables, Fields, and Data Types

Fill out a chart for each table to be included in the database. YOU MAY NEED MORE TABLES THAN THERE ARE HERE. The ones here are just to get you started. Mark the primary key with a double asterisk (\*\*). Mark any foreign keys with the letters “fk” in parentheses, (fk).

Name of 1st Table: \_\_\_\_\_\_Students\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Field Name | Data Type |
| StudentID\*\* | Int |
| CourseNum(fk) | Int(s) |
| FirstName | String |
| LastName | String |
| DoB | String |
| SSN | Int |
| Address | String |
| ZipCode | Int |
| HomePhone | int |
| Gender | char |

Name of 2nd Table: \_\_\_\_\_\_\_\_\_\_\_\_\_Courses\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Field Name | Data Type |
| CourseNum\*\* | Int |
| SubjectID(fk) | Int |
| CourseTitle | String |
| DifficultyLevel | String |
| InstructorName | String |
|  |  |

Name of 3rd Table: \_\_\_\_\_\_\_\_\_\_\_\_\_Subject\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Field Name | Data Type |
| SudbjectID\*\* | Int |
| SubjectDescription | String |