# COMP 1805A

## Assignment 4

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## Problem 1 : Movies ER Model

#### R1.1

MovieTitle, Director -> Producer

SPTitle, Author -> temp

ActorName -> Phone, Address, AgentName

Scene#, SPTitle, Author -> StoryLocation, FilmLocation

Take#, Scene# -> Date, Time

#### R1.2

MovieTitle, Director -> Producer

ActorName -> Phone

ActorName -> Address

ActorName -> AgentName

Scene#, SPTitle, Author -> StoryLocation

Scene#, SPTitle, Author -> FilmLocation

Take#, Scene# -> Date

Take#, Scene# -> Time

#### R1.3

|  |  |  |
| --- | --- | --- |
| MovieTitle | Director | Producer |

|  |  |  |  |
| --- | --- | --- | --- |
| ActorName | Phone | Address | AgentName |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scene# | SPTitle | Author | StoryLocation | FilmLocation |

|  |  |  |  |
| --- | --- | --- | --- |
| Take# | Scene# | Date | Time |

## Problem 2 : Fakebooks ER Model

#### R2.1

songID -> SONGS\_title, composer

code -> BOOKCODES\_title, publisher, date

userID -> password, name, emailAddress

songID, code -> length, page

code, userID -> pdfFileName, pageOffset

#### R2.2

songID -> SONGS\_title

songID -> composer

code -> BOOKCODES\_title

code -> publisher

code -> date  
userID -> password

userID -> name

userID -> emailAddress

songID, code -> length

songID, code -> page

code, userID -> pdfFileName

code, userID -> pageOffset

#### R2.3

|  |  |  |
| --- | --- | --- |
| songID | SONGS\_title | composer |

|  |  |  |  |
| --- | --- | --- | --- |
| code | BOOKCODES\_title | publisher | date |

|  |  |  |  |
| --- | --- | --- | --- |
| userID | password | name | emailAddress |

|  |  |  |  |
| --- | --- | --- | --- |
| songID | code | length | page |

|  |  |  |  |
| --- | --- | --- | --- |
| code | userID | pdfFileName | pageOffset |

## Problem 3 : Attribute-Based Design

#### R3.1

Stdnum -> stdname, stdemail, stdaddress

Stdemail -> stdname, stdnum, stdaddress

City -> area\_code, office\_code

Stdnum, stdaddress -> area\_code, office\_code, station\_code, city, strnum, street, postcode

Postcode -> city

Course\_section -> term, year, section\_letter

Course\_number -> department\_name, course\_name

Period, room, term -> course\_section

Room\_num -> building

Stdnum, course\_num -> grade, section

#### R3.2

Stdnum -> stdname

Stdnum -> stdemail

Stdnum -> stdaddress

City -> area\_code

City -> office\_code

Stdnum, stdaddress -> area\_code

Stdnum, stdaddress -> office\_code

Stdnum, stdaddress -> station\_code

Stdnum, stdaddress -> city

Stdnum, stdaddress -> strnum

Stdnum, stdaddress -> street

Stdnum, stdaddress -> postcode

Course\_section -> section\_letter

Course\_section -> term

Course\_section -> year

Course\_number -> department\_name

Course\_number -> course\_name

Period, room, term -> course\_section

Room\_num -> building

Stdnum, course\_num -> grade

Stdnum, course\_num -> section

#### R3.3

|  |  |  |  |
| --- | --- | --- | --- |
| Stdnum | Stdname | Stdaddress | stdemail |

|  |  |  |
| --- | --- | --- |
| City | Area\_code | Office\_code |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stdnum | stdaddress | Area\_code | Office\_code | Station\_code | City | Strnum | Street | psotcode |

|  |  |  |  |
| --- | --- | --- | --- |
| Course\_section | Section\_letter | Term | year |

|  |  |  |
| --- | --- | --- |
| Course\_number | Course\_name | Department\_name |

|  |  |  |  |
| --- | --- | --- | --- |
| Period | Room | Term | Section\_number |

|  |  |
| --- | --- |
| Room\_num | building |

|  |  |  |  |
| --- | --- | --- | --- |
| Std\_num | course\_num | Grade | section |

## Problem 4 : Attribute-Based Project Database

#### R4.1

**Attribute** **Comment**

Title The title of the class i.e., Fundamentals of Databases

Id The id of the class i.e., COMP3005

Grades The grades of all the students currently in class

Prerequisites The classes and grades needed to take this class

Current\_classes The classes a student or prof is currently taking

Previous\_classes The classes a student has already taken

Required\_classes The classes a student needs to take

Student\_number The student number

Student\_email The student email

Student\_name The student name

Program The student program of study i.e., Software Engineering

Cgpa The student Carleton grade point average i.e., 10.0/12.0

Prof\_id The professor id

Prof\_email The professor email

Prof\_name The professor name

Background The professor background of study i.e., Databases

#### R4.2

1. Students can have only one name, cgpa, email and student number
2. The combination of the students’ email, and student number identify a particular student
3. The combination of a student number, program and id will identify required classes, current classes, and previous classes that the student needs, is or has taken
4. The combination of an id and a title can identify the grades and prerequisites of a class
5. The combination of a prof\_email and a prof\_id can identify the name and background of a professor
6. Professors can only have one email, name, and prof\_id
7. The combination of a prof\_id and an id will identify the classes a professor teaches

#### R4.3

Student\_number, email -> name, program, cgpa

Required\_classes -> current\_classes, previous\_classes

Id, title -> grades, prerequisites

Prof\_id, email -> name, background

Student\_number, id, program -> required\_classes, current\_classes, previous\_classes

Prof\_id, id -> prerequisites, title, grades

#### R4.4

Student\_number, email -> name

Student\_number, email -> program

Student\_number, email -> cgpa

Id, title -> prerequisites

Id, title -> grades

Prof\_id, email -> name

Prof\_id, email -> background

Student\_number, id, program -> required\_classes

Student\_number, id, program -> current\_classes

Student\_number, id, program -> previous\_classes

Prof\_id, id -> prerequisites

Prof\_id, id -> title

Prof\_id, id -> grades

#### R4.5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Student\_number | Email | Name | Program | cgpa |

|  |  |  |  |
| --- | --- | --- | --- |
| Id | Title | Prerequisites | grades |

|  |  |  |  |
| --- | --- | --- | --- |
| Prof\_id | Email | Name | background |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student\_number | Id | Program | Required\_classes | Current\_classes | Previous\_classes |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Prof\_id | Id | Prerequisites | Title | grades |