

```

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2
3 Zacharie Happel
4 Database Management Final Project
5
6
7 //////////////////////////////////////////
8 \\\\\\\Population\\\\\\\\\\
9 ||||| Person |||||
10 //////////////////////////////////////////
11 \\\\\\\
12
13
14 /* Each person is given a unique CampusWideID,
15 */
16
17
18
19 USE College_DB;
20 CREATE TABLE Person (
21     CampusWideID INT NOT NULL UNIQUE AUTO_INCREMENT,
22     FirstName VARCHAR(20) DEFAULT NULL,
23     LastName VARCHAR(20) DEFAULT NULL,
24     MiddleName VARCHAR(20) DEFAULT NULL,
25     MaidenName VARCHAR(20) DEFAULT NULL,
26     SocialSecurity INT DEFAULT NULL,
27     DoB VARCHAR(8) NOT NULL,
28     BannerID VARCHAR(20) DEFAULT NULL,
29     Gender VARCHAR(20) DEFAULT NULL,
30     Sex VARCHAR(10) DEFAULT NULL,
31     Race VARCHAR(25) DEFAULT NULL,
32     Role VARCHAR(20) NOT NULL ,
33     HomeAddress VARCHAR(70) DEFAULT NULL,
34     SecondaryAddress VARCHAR(70) DEFAULT NULL,
35     PrimaryPhone VARCHAR(14) DEFAULT NULL,
36     SecondaryPhone VARCHAR(14) DEFAULT NULL,
37
38
39     PRIMARY KEY (CampusWideID)
40 )
41
42
43 //////////////////////////////////\\
44 \\\\\\\Population\\\\\\\\\\
45 //////////////////////////////////\\

```

Insertion of people into Person table
(Redacted because it contained personal information)

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80 /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
81 /\ /\ /\ /\ Update /\ /\ /\ /\ /\
82 /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
83
84
85 /* Enters the BannerID's for the first time */
86 UPDATE Person
87 SET BannerID = (SELECT Concat( LOWER(SUBSTRING(Title,1, 2)) , 00,
88 UPPER(SUBSTRING(FirstName,1,2)) , UPPER(SUBSTRING(LastName,1,2))),
89 00000, CampusWideID) as Banner
90 WHERE BannerID IS NULL )
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91 WHERE CampusWideID IS NOT NULL;
92
93
94 /* Can be used if BannerID format needs to be changed */
95 UPDATE Person
96 SET BannerID = (SELECT Concat( LOWER(SUBSTRING(Title,1, 2)) , 00,
97 UPPER(SUBSTRING(FirstName,1,2)) , UPPER(SUBSTRING(LastName,1,2)),
98 00000, CampusWideID) as Banner
99 WHERE BannerID IS NOT NULL)
100 WHERE CampusWideID IS NOT NULL;
101
102
103 /* Solves the isse of some BannerID's being null while others are not*/
104 UPDATE Person
105 SET BannerID = (SELECT Concat( LOWER(SUBSTRING(Title,1, 2)) , 00,
106 UPPER(SUBSTRING(FirstName,1,2)) , UPPER(SUBSTRING(LastName,1,2)),
107 00000, CampusWideID) as Banner
108 WHERE BannerID IS NULL OR BannerID IS NOT NULL;
109 WHERE CampusWideID IS NOT NULL;
110
111
112 //////////////////////////////////////////
113 \\\
114 ||||| Semester ||
115 //////////////////////////////////////////
116 \\\
117
118
119
120
121 CREATE TABLE Semester(
122 SemesterID INT NOT NULL UNIQUE,
123 BeginDate VARCHAR (5),
124 EndDate VARCHAR (5),
125 Season VARCHAR(6),
126 PRIMARY KEY (SemesterID)
127 );
128
129
130 //////////////////////////////////////////
131 \\\Population\\\
132 //////////////////////////////////////////
133
134 INSERT INTO Semester
135 VALUES (10 , '12/20' , '01/23' , 'Winter');

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136
137 INSERT INTO Semester
138 VALUES (20 , '01/25', '5/25', 'Spring');
139
140 INSERT INTO Semester
141 VALUES (30 , '06/05', '08/23', 'Summer');
142
143 INSERT INTO Semester
144 VALUES (40 , '8/28', '12/16', 'Fall');
145
146
147
148 //////////////////////////////////////
149 \\\\\\\Population\\\\\\\\\\
150 ||||| Department |||||
151 //////////////////////////////////////
152 \\\\\\\Population\\\\\\\\\\
153
154
155
156
157 CREATE TABLE Department(
158 DepartmentID INT NOT NULL AUTO_INCREMENT,
159 DepartmentName VARCHAR(35),
160
161 PRIMARY KEY (DepartmentID)
162 );
163
164
165
166 //////////////////////////////////\\
167 \\\\\\\Population\\\\\\\\\\
168 //////////////////////////////////\\
169
170 INSERT INTO Department (DepartmentName)
171 VALUES ('Arts Department'),
172         ('Computer Science Department'),
173         ('Fashion Department'),
174         ('Medical Department');
175
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183 ///////////////////////////////////////////////////
184 \\\\\\\Population\\\\\\\\\\
185 ||||| Course |||||
186 ///////////////////////////////////////////////////
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191
192 CREATE TABLE Course (
193 CourseID INT NOT NULL UNIQUE AUTO_INCREMENT,
194 DepartmentID INT,
195 IlearnID VARCHAR(30) UNIQUE DEFAULT NULL,
196 CourseName VARCHAR(50) NOT NULL,
197 CreditAmt INT NOT NULL,
198 SemesterID INT,
199
200 PRIMARY KEY (CourseID),
201 FOREIGN KEY (SemesterID) REFERENCES Semester(SemesterID),
202 FOREIGN KEY (DepartmentID) REFERENCES Department(DepartmentID)
203 );
204
205
206 //\\\\\\\\\\
207 \\\\\\\Population\\\\\\\\\\
208 //\\\\\\\\\\
209
210 INSERT INTO Course(DepartmentID, CourseName, CreditAmt)
211 VALUES (2, 'Intro to Programming', 4),
212         (2, 'Software Development I', 4),
213         (2, 'Software Development II', 4),
214         ( 2, 'Internetworking', 4),
215         (2, 'Database Management', 4),
216         (2, 'Data Communications', 4);
217
218 INSERT INTO Course(DepartmentID, CourseName, CreditAmt)
219 VALUES (3, 'Fashion Economics', 4),
220         (3, 'Intro Design Studio', 4),
221         (4, 'Pathogens and Microbes', 4),
222         (4, 'Fundamentals of Immunology', 4),
223         (4, 'Radiology Technology', 4),
224         (1, 'Watching Paint Dry', 4);
225

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230
231 /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
232 /\ /\ /\Complex Queries\ /\ /\
233 /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
234
235 /* These queries allocate an individual, and unique IlearnID to each course
236     using the unDepartment ID number,                */
237
238 UPDATE Course
239 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5)
240 AS Ilearn
241 WHERE CourseName = 'Software Development I')
242 WHERE CourseName = 'Software Development I';
243
244
245 UPDATE Course
246 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5)
247 AS Ilearn
248 WHERE CourseName = 'Software Development I')
249 WHERE CourseName = 'Software Development I';
250
251
252 UPDATE Course
253 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5)
254 as Ilearn
255 WHERE CourseName = 'Intro to Programming')
256 WHERE CourseName = 'Intro to Programming';
257
258 UPDATE Course
259 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5)
260 as Ilearn
261 WHERE CourseName = 'Internetworking')
262 WHERE CourseName = 'Internetworking';
263
264 UPDATE Course
265 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5)
266 as Ilearn
267 WHERE CourseName = 'Database Management')
268 WHERE CourseName = 'Database Management';
269
270 UPDATE Course
```

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271 SET IlearnID = (SELECT Concat(DepartmentID, UPPER(SUBSTRING(CourseName, 1, 5))
272 as Ilearn
273 WHERE CourseName = 'Data Communications')
274 WHERE CourseName = 'Data Communications';
275
276
277
278
279 /*
280 //////////////////////////////////////
281 \\\\\\\INSERT\\\\\\
282 ||||| CourseInstance |||||
283 \\\\\\\
284 \\\\\\\
285
286
287
288
289 CREATE TABLE CourseInstance(
290 IlearnID VARCHAR(30) UNIQUE NOT NULL,
291 SemesterID INT DEFAULT NULL,
292 InstructorCWID INT DEFAULT NULL,
293
294
295 FOREIGN KEY (IlearnID) REFERENCES Course(IlearnID),
296 FOREIGN KEY (SemesterID) REFERENCES Semester(SemesterID)
297 );
298
299
300
301 \\\\\\\
302 \\\\\\\INSERT\\\\\\
303 \\\\\\\
304
305
306
307 INSERT INTO CourseInstance(IlearnID, SemesterID)
308 VALUES ('1WATCH12', 20),
309          ('2DATA 6', 20),
310          ('2DATAB5', 20),
311          ('2INTER4', 20),
312          ('2INTR01', 20),
313          ('2SOFTW2', 20),
314          ('2SOFTW3', 20),
315          ('3FASHI7', 20),

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```
316         ('3INTR08',20),
317         ('4FUNDA10',20),
318         ('4PATH09',20),
319         ('4RADIO11',20),
320         ('1WATCH12', 40),
321         ('2DATA 6', 40),
322         ('2DATAB5', 40),
323         ('2INTER4', 40),
324         ('2INTR01', 40),
325         ('2SOFTW2', 40),
326         ('2SOFTW3', 40),
327         ('3FASHI7',40),
328         ('3INTR08',40),
329         ('4FUNDA10',40),
330         ('4PATH09',40),
331         ('4RADIO11',40);
332     /* Copies these IlearnID's from the ones that were previously generated
333
334
335
336
337     //////////////////////////////////
338     \\\\//Complex Queries\\\\\\//
339     //////////////////////////////////
340
341
342
343     SELECT  ci.IlearnID
344     FROM    CourseInstance ci
345     LEFT JOIN Course course ON ci.IlearnID = course.IlearnID
346     WHERE   course.DepartmentID = 2
347     /* Returns IlearnID of course in Comp Sci */
348
349
350     SELECT i.DepartmentID, i.CampusWideID FROM Instructor i
351     INNER JOIN Course c
352         ON i.DepartmentID = c.DepartmentID
353     INNER JOIN CourseInstance ci
354         ON c.IlearnID = ci.IlearnID
355         WHERE c.DepartmentID = 2;
356
357     /* Returns the department ID associated with all Courses in CourseInstance,
358        the Instructor that teaches for that department
359
360
```


[illegible]

```
406 FOREIGN KEY (CampusWideID) REFERENCES Person(CampusWideID),
407 FOREIGN KEY (BannerID) REFERENCES Person(BannerID)
408 FOREIGN KEY (DepartmentID) REFERENCES Department(DepartmentID)
409 );
410
411
412
413
414
415 //////////////////////////////////
416 \\\\//INSERT/Population\\\\\\
417 //////////////////////////////////
418
419 UPDATE Instructor
420 SET DepartmentID = 2
421 WHERE Instructor.LastName = 'Arias';
422
423 UPDATE Instructor
424 SET DepartmentID = 1
425 WHERE Instructor.LastName = 'Valentine;
426
427 UPDATE Instructor
428 SET DepartmentID = 3
429 WHERE Instructor.LastName = 'Haley';
430
431 UPDATE Instructor
432 SET DepartmentID = 4
433 WHERE Instructor.LastName = 'Sharpe';
434
435
436
437
438
439 //////////////////////////////////
440 \\\\//Complex Queries\\\\\\
441 //////////////////////////////////
442
443 INSERT INTO Instructor(CampusWideID, BannerID, FirstName, LastName)
444 SELECT p.CampusWideID, p.BannerID,
445        p.FirstName,
446        p.LastName
447 FROM Person p
448 LEFT JOIN Instructor s ON p.CampusWideID = s.CampusWideID
449 WHERE p.Title = 'Instructor' AND s.CampusWideID IS NULL;
450
```

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451
452
453
454
455
456
457
458  /*
459  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
460  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
461  ||||| Student |||||
462  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
463  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
464
465
466
467
468
469 CREATE TABLE Student (
470 CampusWideID INT NOT NULL UNIQUE AUTO_INCREMENT,
471 BannerID VARCHAR(20) DEFAULT NULL,
472 FirstName VARCHAR(20) DEFAULT NULL,
473 LastName VARCHAR(20) DEFAULT NULL,
474 AcademicYear CHAR(4),
475 OnCampusStatus CHAR(1),
476
477 PRIMARY KEY (CampusWideID),
478 FOREIGN KEY (CampusWideID) REFERENCES Person(CampusWideID)
479 );
480
481
482  /*
483  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
484  /\ /\ /\ Population /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
485  /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
486
487
488  /* Adding column */
489 ALTER TABLE Student
490 ADD COLUMN DepartmenOfMajor INT(11) DEFAULT NULL AFTER OnCampusStatus;
491
492
493  /* Add FK constraint to DepartmentOfMajor, references DepartmentID */
494 ALTER TABLE `College_DB`.`Student`
495 ADD CONSTRAINT `FK_Student_DepartmentOfMajor` FOREIGN KEY (`DepartmentOfMajo
```


[illegible]

[illegible]

```
631
632 CALL AssignBannerID(@cwid, @OptionalLocalDeclarationOfBannerID);
633 END
634
635 #####
636
637
638 DELIMITER $$
639 CREATE PROCEDURE AssignBannerID( IN cwid INT(11),
640   OUT UniqueBannerID VARCHAR(20))
641
642
643 BEGIN
644
645
646     DECLARE RoleAcronymStudent VARCHAR(1) DEFAULT 's';
647     DECLARE RoleAcronymInstructor VARCHAR(3) DEFAULT 'in';
648
649     SELECT @PersonRole := Role FROM Person WHERE @cwid = CampusWideID;
650     SELECT @PersonCWID := CampusWideID FROM Person WHERE @cwid = CampusWideID;
651     SELECT @PersonDoB := DoB FROM Person WHERE @cwid = CampusWideID;
652
653     IF @PersonRole = 'Student' THEN
654         SELECT Concat(SelectedBannerIDAcronym, PersonCWID, PersonDoB)
655         INTO UniqueBannerID;
656
657     ELSEIF @PersonRole = 'Instructor' THEN
658         SELECT Concat(SelectedBannerIDAcronym, PersonCWID, PersonDoB)
659         INTO UniqueBannerID;
660
661     END IF;
662
663
664     UPDATE Person
665     SET BannerID = @UniqueBannerID
666     WHERE @cwid = CampusWideID;
667
668
669
670 END$$
671 DELIMITER ;
672
```