

Information Storage and Management II – CS2209

Lecturer: Dr. Alejandro Arbelaez

10 marks

Project

This project is due on April/22/2021. You should submit your project as a single .txt file with your solution ([ca2.txt] electronically via Canvas.

Declaration:

By submitting this assignment. I agree to the following:

"I have read and understand the UCC academic policy on plagiarism and I agree to the requirements set out thereby in relation to plagiarism and referencing. I confirm that I have referenced and acknowledged properly all sources used in preparation of this assignment.

I declare that this assignment is entirely my own work based on my personal study. I further declare that I have not engaged the services of another to either assist me in, or complete this assignment"

In this project, we are going to take information from a relational database and migrate it to a document-oriented database (MongoDB).

The following tables describe the core data of the relational database.

STUDENT				COURSE			
Name	Student_number	Class	Major	Course_name	Course_number	Credit_hours	Department
Smith	17	1	CS	Intro to Computer Science	CS1310	4	CS
Brown	8	2	CS	Data Structures	CS3320	4	CS
				Discrete Mathematics	MATH2410	3	MATH
				Database	CS3380	3	CS

SECTION				
Section_identifier	Course_number	Semester	Year	Instructor
85	MATH2410	Fall	07	King
92	CS1310	Fall	07	Anderson
102	CS3320	Spring	08	Knuth
112	MATH2410	Fall	08	Chang
119	CS1310	Fall	08	Anderson
135	CS3380	Fall	08	Stone

GRADE_REPORT

Student_number	Section_identifier	Grade
17	112	B
17	119	C
8	85	A
8	92	A
8	102	B
8	135	A

PREREQUISITE

Course_number	Prerequisite_number
CS3380	CS3320
CS3380	MATH2410
CS3320	CS1310

1. **[4 Marks]** Create a MongoDB with the previous information.
2. **[2 Marks]** Write a MongoDB query to retrieve the transcript, i.e., a list of courses and grades of “Smith”.
3. **[2 Marks]** Write a MongoDB query to retrieve the names of the students that took the section of “Database” course offered in fall 08 and their grades in that section.
4. **[2 Marks]** Write a MongoDB query to retrieve the course_name of the prerequisites of the “Database” course.