## ITCS 241 Database Management Systems SQL Class Assignment 4 (Extra)

(No submission required)

## **Preparation before the SQL Class Assignment Exercise**

We will use an untouched tinycollege database for this exercise. Hence, before you do the exercise, please drop (delete) the current version of tinycollege database you used in the class and create a brand new tinycollege database from the sql script. Otherwise, you can create a copy of the tinycollege database, i.e., tinycollege2, for these practices:).

Write the DQL (SELECT) commands for the following queries.

65. List all professors who work in the same department as the professor's employee number 209. The output should include the professor first name, last name, department code, department name and exclude the professor's employee number 209. Expected 4 attributes, 2 rows as shown in the following output table

emp_fname	emp_Iname	dept_code	ot_code dept_name	
Peter	Rob	CIS	Computer Info. Systems	
Carlos	Coronel	CIS	Computer Info. Systems	

66. List all first names of both students and professors whose names are used at least twice. The result should include the first name (sorted alphabetically) and the number of times the names were used.

Expected 2 attributes, 10 rows as shown in the following output table

fname	num_used
Anne	3
Annelise	2
Carlos	2
George	4
Gerald	2
John	3
Marie	2
Robert	4
Ronald	3
William	2

67. List courses that do not have class offered. The result should show course code, course name, number of the class offered.

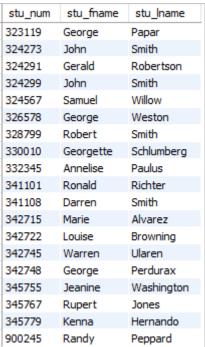
Expected 3 attributes, 3 rows as shown in the following output table

course_code	course_name	num_dass
ENG-220	Literature	0
FIN-300	Money and Banking	0
MATH-240	Intro. to Calculus	0

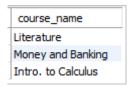
68. Find a list of professors whose current ages are below the average of all professors. **Expected 3 attributes**, **10 rows as shown in the following output table** 

emp_fname	emp_Iname	age
Ralph	Matler	48
Anne	Doornberg	58
Doreen	Stoddard	61
Annelise	Ritula	64
Robert	Smith	66
Herman	Williams	66
Willa	Dexter	68
Ronald	Donelly	69
Ismael	Osaki	69
Van	Thieu	70

69. Find a list of students who have not enrolled in any classes, sorted by student number. **Expected 3 attributes, 19 rows as shown in the following output table** 



70. Find a list of courses that do not have any classes. **Expected 1 attribute, 3 rows as shown in the following output table** 



71. List all professors, and their number of teaching classes, who teach less than 2 classes (included the ones who do not have any classes). **Expected 2 attributes, 6** rows as shown in the following output table

fullname	num_classes
Ross Washington	1
Gerald Graztevski	1
Herman Williams	1
Hermine Jones	1
Ronald Okomoto	0
Ralph Matler	1

72. List all professors, and their department name, who do not have any advisees. **Expected 3 attributes, 5 rows as shown in the following output table** 

emp_fname	emp_Iname	dept_name	
Arnelle	Heffington	Accounting	
Van	Thieu	Biology	
Hermine	Jones	Mathematics	
Ronald	Okomoto	English	
Ralph	Matler	Economics/Finance	

73. List all students and professors who are in the "CIS" department. **Expected 2** attributes, 10 rows as shown in the following output table

First name	Last Name
Anne	Robertson
Anne	Smithson
Walter	Oblonski
Carlos	Innugado
Georgette	Schlumberg
John	Brewton
Antoinette	Johnson
Peter	Rob
Melanie	Smith
Carlos	Coronel

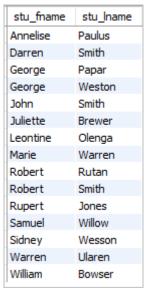
74. List the name of the course (course code and course name) provided for class section 1 but not for class section 2. **Expected 2 attributes, 11 rows as shown in the following output table** 

course_code	course_name	
ACCT-311	Managerial Accounting	
ART-210	Intro. to Art	
ART-340	Jewelry Design	
BIOL-220	Biology and the Environment	
CIS-320	Spreadsheet Applications	
CIS-420	Database Design and Implementation	
ECON-250	Macroeconomics	
HIST-220	U.S. History Through the 1900s	
MATH-243	Mathematics for Managers	
PSYCH-200	Intro. to Psychology	
SOC-200	Intro, to Sociology	

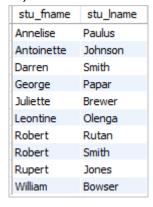
75. List all professors who teach the classes more than the average number of teaching class per professors. **Expected 4 attributes, 5 rows as shown in the following output table** 

emp_num	emp_fname	emp_Iname	num_class_teach
105	Arnelle	Heffington	3
228	Carlos	Coronel	5
162	Peter	Rob	4
191	Willa	Dexter	3
104	Preston	Yukon	4

76. List the students whose last name is shorter than the average length of all students' last name. Sort the result by student's first name. **Note**: you can use LENGTH() to find the number of characters in a string. **Hint**: the average length of the student last names is 6.9211 characters. **Expected 2 attributes, 15 rows as shown in the following output table** 



77. List the students whose last name is longer than their last name. Sort the result by student's first name. **Note**: you can use LENGTH() to find the number of characters in a string. **Expected 2 attributes, 10 rows as shown in the following output table** 



78. List the name of the departments that have the number of the students equals to the number of the professors. **Expected 2 attributes**, **4 rows as shown in the following output table** 

dept\_code dept\_name

MATH Mathematics

ENG English

SOC Sociology

PSYCH Psychology

79. List the students whose GPA is above average GPA of their department. Sort the result by the department codes. **Expected 6 attributes, 18 rows as shown in the following output table** 

Jourpur					
stu_num	stu_fname	stu_Iname	stu_gpa	dept_code	dept_name
322345	Sidney	Wesson	3.91	ACCT	Accounting
324258	Juliette	Brewer	3.48	ACCT	Accounting
324274	Raphael	Katinga	2.91	ACCT	Accounting
328993	Anton	Jubilar	2.95	ACCT	Accounting
328799	Robert	Smith	3.51	BIOL	Biology
900245	Randy	Peppard	2.61	BIOL	Biology
311198	Anne	Robertson	3.04	CIS	Computer Info. Systems
330010	Georgette	Schlumberg	3.21	CIS	Computer Info. Systems
345758	Antoinette	Johnson	3.45	CIS	Computer Info. Systems
342715	Marie	Alvarez	2.98	ENG	English
345767	Rupert	Jones	3.33	ENG	English
320367	Suzanna	Grafton	2.81	HIST	History
345779	Kenna	Hernando	3.88	HIST	History
332345	Annelise	Paulus	3.92	MATH	Mathematics
319989	Heinz	Schloss	3.45	MKT/MGT	Marketing/Management
323119	George	Papar	2.78	MKT/MGT	Marketing/Management
327689	Leontine	Olenga	3.12	MKT/MGT	Marketing/Management
345755	Jeanine	Washington	2.87	MKT/MGT	Marketing/Management

80. List the students whose GPA is the highest GPA of their department. Sort the result by the department codes. **Expected 6 attributes**, **11 rows as shown in the following output table** 

stu_num	stu_fname	stu_Iname	stu_gpa	dept_code	dept_name
322345	Sidney	Wesson	3.91	ACCT	Accounting
345783	LaRue	Boisseaux	3.02	ART	Fine Arts
328799	Robert	Smith	3.51	BIOL	Biology
345758	Antoinette	Johnson	3.45	CIS	Computer Info. Systems
342721	Robert	Rutan	3.01	ECON/FIN	Economics/Finance
345767	Rupert	Jones	3.33	ENG	English
345779	Kenna	Hernando	3.88	HIST	History
332345	Annelise	Paulus	3.92	MATH	Mathematics
319989	Heinz	Schloss	3.45	MKT/MGT	Marketing/Management
342745	Warren	Ularen	2.51	PSYCH	Psychology
342722	Louise	Browning	3.72	SOC	Sociology