Assignment 2   CSC1002   Design

1.   Program structure and flow:

First, create the UI controls widgets:

GroupLetters(RadioButtonGroup)
dept_input(TextInput)
title_input(TextInput))
options(RadioGroup)
button_refresh(Button)
Group_choices(RadioButtonGroup)
Department_choices(RadioButtonGroup)
Text_Instruction(Paragraph)

Then, connect SOL server to get the data from the data base.

Next, define the callback functions, which allows user to control the widgets. For example, on_click(), on_change().

On Tab1(Course Info):

Part1: Select by letter. Click the letter button to select Course Title.

Part2: Select by text input. Input the text and choose (begins…, contains.., ends…) the title and department. What's more, user can refresh the selected result by refresh button.

On Tab2(Statistics):

By using the drag button to select the department.

The program will show the students' GPA count statistics by year.

2.   Python objects:

Global objects:

idx1: indicate the title text input box

idx2: indicate the department input box

idxc: a variable to store index of widgets

content1: the content in the title text input box

content2: the content in the title text input box

3.   Functions:

connectSQLServer(): connect to the SQL Server.

Tab1:

choose(idx): choose the widgets

title_choose(idx=-1): choose the title text input box

dept_choose(idx=-1): choose the department text input box

title_change(attr,old,new): change the text input(title)

dept_change(attr,old,new): change the text input(department)

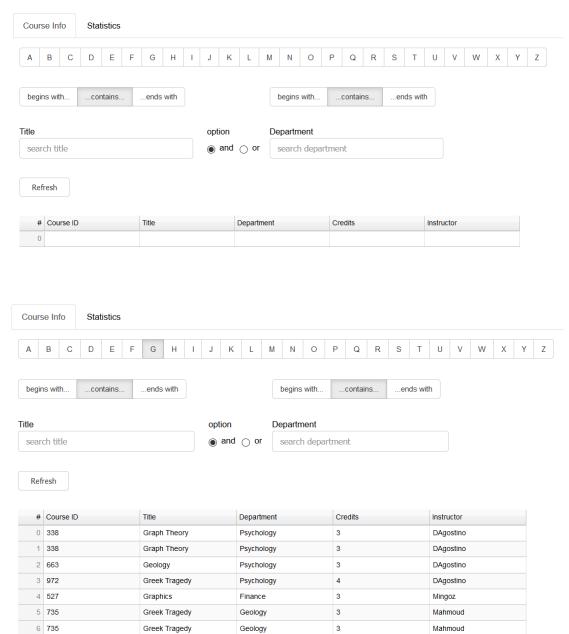data_show(idx): after letter is selected, show the data.

refresh(): refresh the data, give a updated results

Tab2:

select_change(attr, old, new): Click the department, the chart will refresh, it will show the GPA count by year.

check(grade, count): return 0 if student's grade is missing

4. Output:

Course Info	Statistics

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

| begins with... | ...contains... | ...ends with |
| begins with... | ...contains... | ...ends with |

Title
search title

option
● and ○ or

Department
search department

Refresh

#	Course ID	Title	Department	Credits	Instructor
0					

Course Info	Statistics

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

| begins with... | ...contains... | ...ends with |
| begins with... | ...contains... | ...ends with |

Title
search title

option
● and ○ or

Department
search department

Refresh

#	Course ID	Title	Department	Credits	Instructor
0	338	Graph Theory	Psychology	3	DAgostino
1	338	Graph Theory	Psychology	3	DAgostino
2	663	Geology	Psychology	3	DAgostino
3	972	Greek Tragedy	Psychology	4	DAgostino
4	527	Graphics	Finance	3	Mingoz
5	735	Greek Tragedy	Geology	3	Mahmoud
6	735	Greek Tragedy	Geology	3	Mahmoud

begins with...	...contains...	...ends with

begins with...	...contains...	...ends with

Title

es

option
⦿ and ◯ or

Department

y

Refresh

#	Course ID	Title	Department	Credits	Instructor
0	352	Compiler Design	Psychology	4	DAgostino
1	991	Transaction Processing	Psychology	3	DAgostino
2	105	Image Processing	Astronomy	3	Romero
3	105	Image Processing	Astronomy	3	Romero
4	626	Multimedia Design	History	4	Lent

Course Info | Statistics

Department:

All

GPA count by year

Course Info | Statistics

Department:

Elec. Eng.

GPA count by year