

Introduction

GRADESK is an organizational program requested by Mr. Roller to meet his need for a marking software with a higher degree of accuracy for the spectrum of marks between 3+ and 4++. The program he currently uses is called Mark Manager (MaMa), our client finds it to be dissatisfactory because he is not able to use marks like 4-- or 4/4+ in MaMa and finds it to be very difficult to work around. GRADESK seeks to address this issue by increasing the marking options in the 3+ to 4++ range to include the in-between marks and on all other aspects mirror the functions of MaMa. These other functionalities include managing classes, managing students in a class, adding marks of an assignment for the whole class, and displaying all the marks a student has received as an online evidence record. This program is targeted toward teachers teaching courses with high academic averages, as they can use GRADESK to its maximum potential.

Software platforms and APIs used

Windows 10: As both of us already had Windows 10 installed, we did not bother installing a Linux Distro. Reflecting back on this decision, we should have developed on a Linux Distro as it's far more reliable than Windows and less resource intensive. There were times where 8Gb of RAM simply wasn't enough when running PyCharm, sqldeveloper, Github Desktop and a browser.

Oracle Database 11g Express Edition: Database used to store all data for this program

SQL Developer: Used to write GRADESK_CREATE.sql

SQL*Plus

Python 3.71 (64 bit) - Python 3.72 (64 bit)

Pycharm Professional: Main IDE used to write python code

PySimpleGUI (Tk) 3.9.0 - 3.22.0: Tool used to create Python GUI's

cx_Oracle: Plugin for connecting python with database

Atom: Used in the beginning to write python code

Teletype: Plugin for atom

Git (GitHub Desktop)

User Guide

Class selection

The home page of GRADESK, this is the first interface you will encounter after you launch the program. On here all of the classes will be listed with information about it like class name, period number, and school year. From here the user can initiate four actions by pressing a corresponding button, access the class, add another class, edit the selected class and its students, and if need be deleting the selected class.

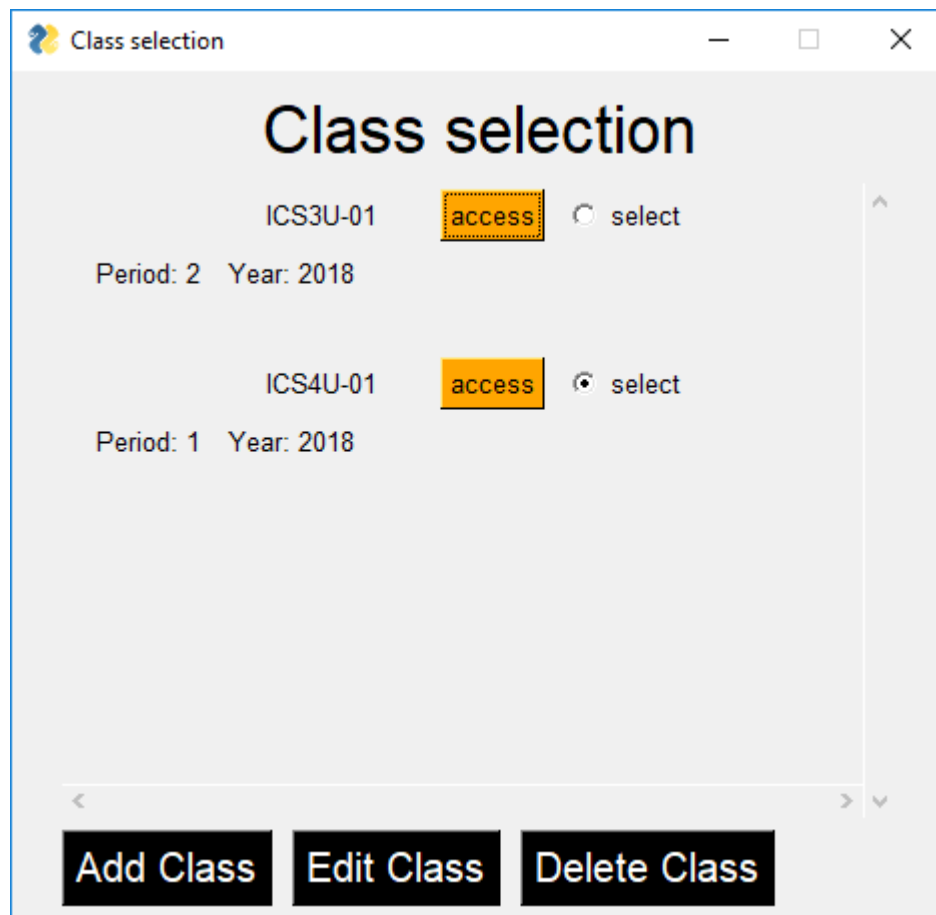
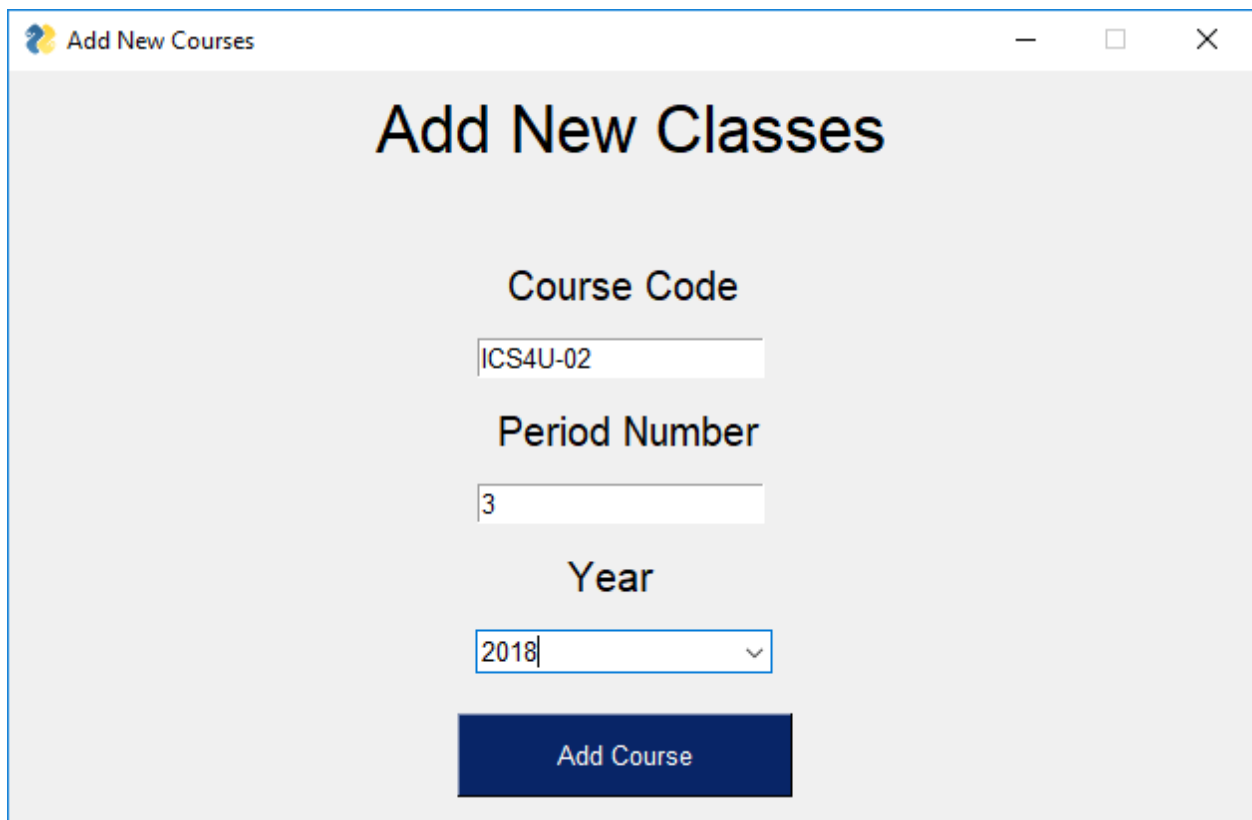


Figure 1.0

*only one class can be selected at a time, the program default it to the last class (bottommost class)

Add Class

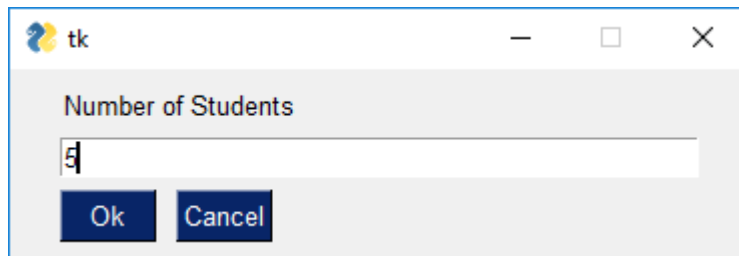
If you choose to add a new class to the database, press the 'Add Class' button on the class selection interface. In the next interface, you can enter the course code, period number, and active year of the new class. There is an input checker in place, course code needs to be eight or fewer characters long (should be in the format of ICS4U-01), and the period number needs to be between 1 and 4. Once satisfied, press 'Add Course'.



The screenshot shows a web application window titled "Add New Courses". Inside the window, the heading "Add New Classes" is centered. Below the heading, there are three input fields: "Course Code" with the value "ICS4U-02", "Period Number" with the value "3", and "Year" with a dropdown menu showing "2018". At the bottom of the form is a dark blue button labeled "Add Course".

Figure 2.0 (adding the new class ICS4U-02)

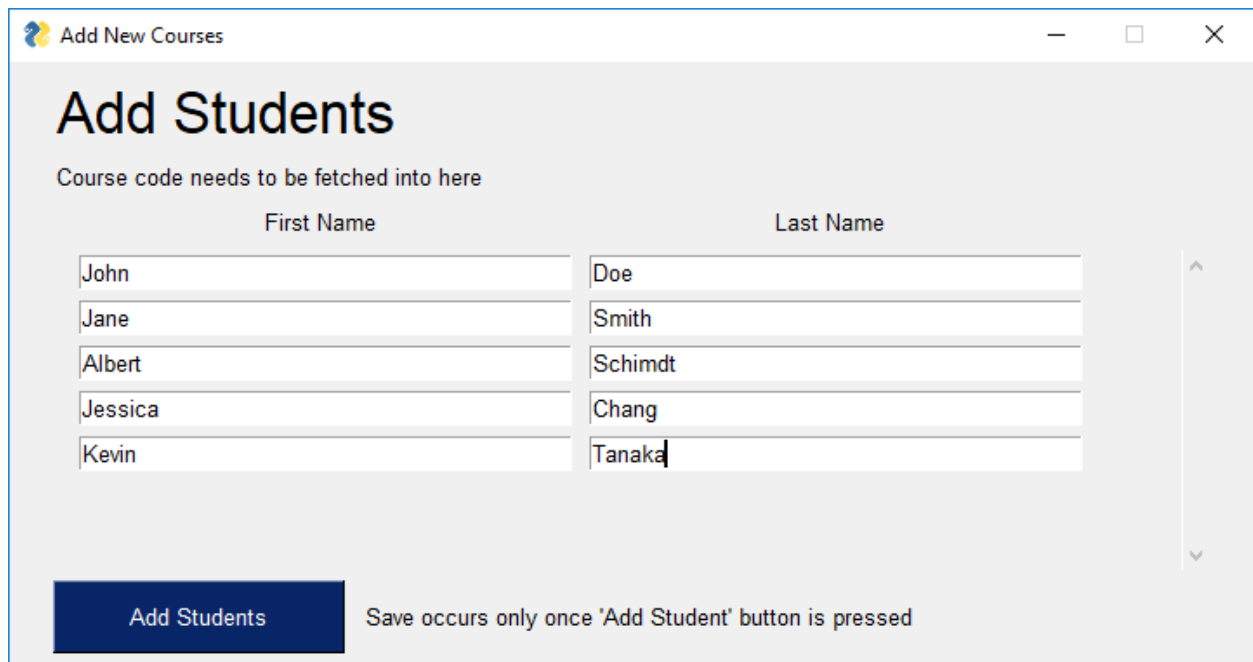
The next interface (figure 2.1) will ask you for the number of students you want in the newly created class. Input needs to be an integer. Press 'Ok' to advance to the next step or press 'Cancel' to skip the next step.



A Tkinter dialog box titled "Number of Students". It features a text input field containing the number "5". Below the input field are two buttons: "Ok" and "Cancel".

Figure 2.1

On this interface (figure 2.2), you will find a number of empty text boxes aligned under first names and last names. Each row represents one student and you can add all the students in your newly added class into database here. Press 'Add students' to finish adding a new class.



A Tkinter window titled "Add New Courses" with a section "Add Students". Below the section title is a note: "Course code needs to be fetched into here". There are two columns of text boxes for "First Name" and "Last Name". The first names listed are John, Jane, Albert, Jessica, and Kevin. The last names listed are Doe, Smith, Schimdt, Chang, and Tanaka. A blue "Add Students" button is at the bottom left, and a note says "Save occurs only once 'Add Student' button is pressed".

First Name	Last Name
John	Doe
Jane	Smith
Albert	Schimdt
Jessica	Chang
Kevin	Tanaka

Figure 2.2

Edit Class

First, select the class you want to edit, then press the 'Edit Class' button at the bottom. The edit class interface (figure 3.0) is very similar to the add class interface, but instead of blank text boxes, they will be filled with current information about the class that you selected. Same input restrictions apply as the add class interface, press 'Edit Course' to make changes. If you wish to edit the students in that class, press 'Go to Edit Students', otherwise press 'x' to exit editing.

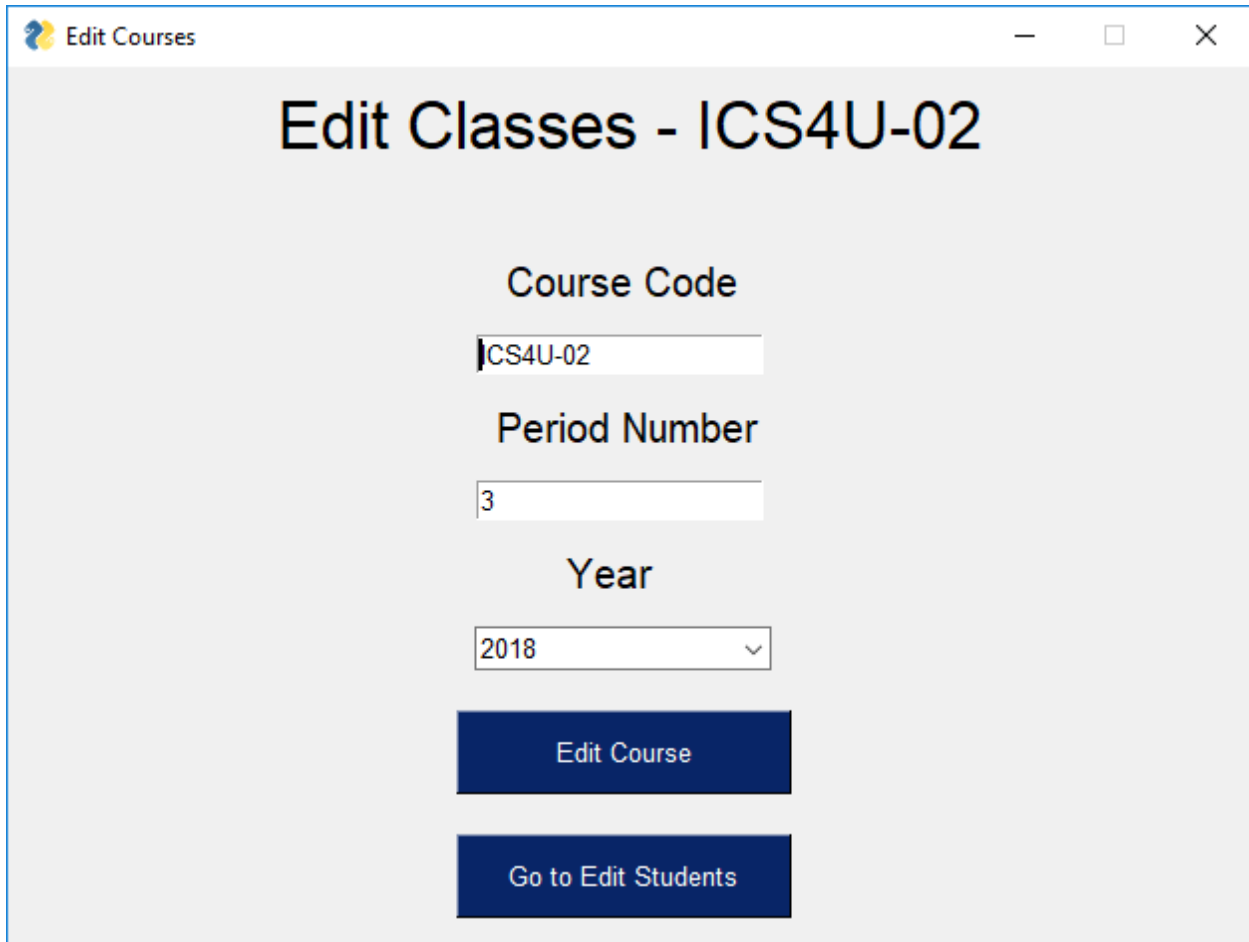
The image shows a web browser window titled "Edit Courses". The main heading is "Edit Classes - ICS4U-02". Below this, there are three input fields: "Course Code" with the value "ICS4U-02", "Period Number" with the value "3", and "Year" with a dropdown menu showing "2018". At the bottom, there are two dark blue buttons: "Edit Course" and "Go to Edit Students".

Figure 3.0 (Editing the class ICS4U-02)

The edit student interface (figure 3.1) is also very similar to its add counterpart but also having the current student data in the text boxes. You can edit the students' first and last names (here changing John Doe to John Wick) or delete students (deleting Albert Schmidt) by checking the box on the same row as their name, be sure to press the 'Save' button to save your changes. If you wish to add new students to the class, press 'Add students' (same process as in add class).

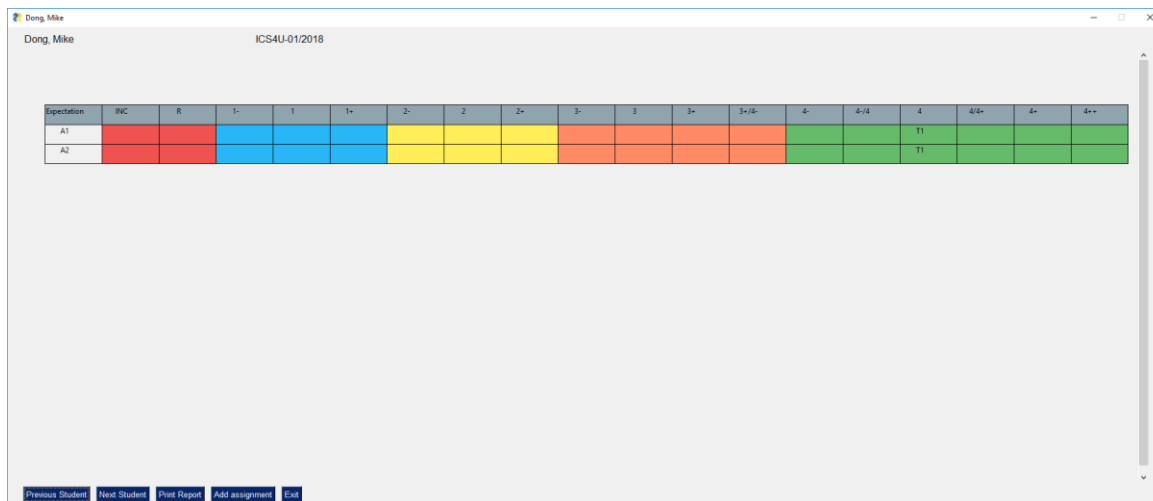
First Name	Last Name	Delete
John	Wick	<input type="checkbox"/>
Jane	Smith	<input type="checkbox"/>
Albert	Schimdt	<input checked="" type="checkbox"/>
Jessica	Chang	<input type="checkbox"/>
Kevin	Tanaka	<input type="checkbox"/>

[Add Students](#) [Save](#) [exit](#)

Figure 3.1

Access a class

To view a student's marks, click access on the class that he/she belongs to. It will bring you to an interface like this (will not have the colorful section if that student does not have a mark yet). Here you can see all the marks the student had received on his assessments. Clicking on 'Next Student' will bring you to the next student in alphabetical order, 'Previous student' brings you to the previous student in alphabetical order.



Pressing 'Print report' will open up automatically generated HTML file in your default browser showing all of the student's marks (figure 4.1). This file can be printed by hitting "Ctrl + P" and can also be saved.

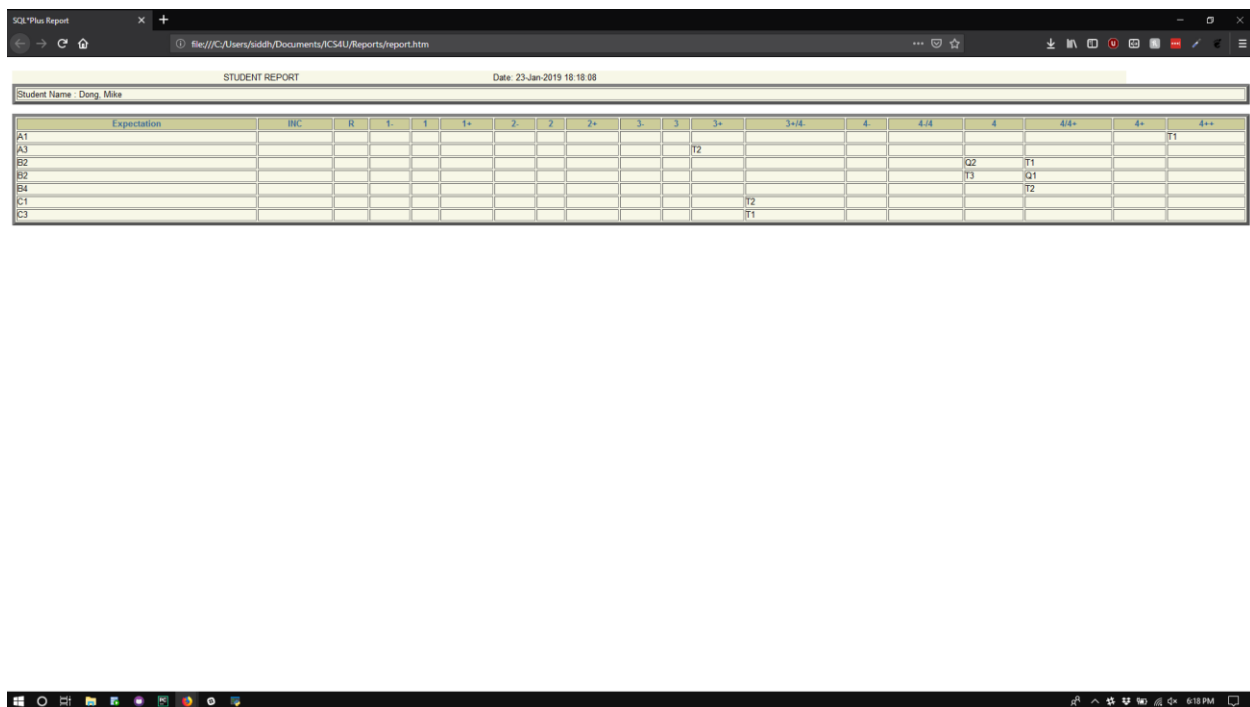


Figure 4.1

Pressing the 'Exit' button will close the python interface and will lead you back to the class selection screen.

Add assignment

Press the 'Add assignment' button on the grid interface, it will present you with two options (figure 5.0), to add one assessment for the current student or to add one assessment for the whole class.

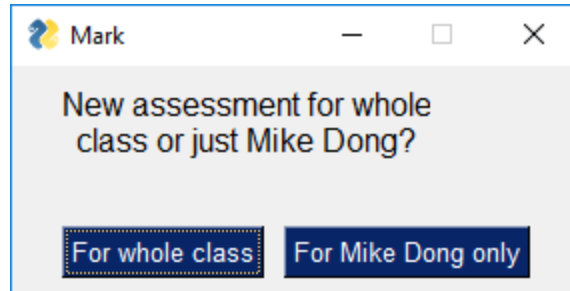


Figure 5.0

No matter which button you press, you will come to an interface (figure 5.1) asking for information about the new assessment like the type of assessment (test, project, quiz, etc), the name of the assessment, and the number of expectations/marks it has. Name of assignment will only take a name in the format of a letter, a number, and the number of expectations can only take an integer.

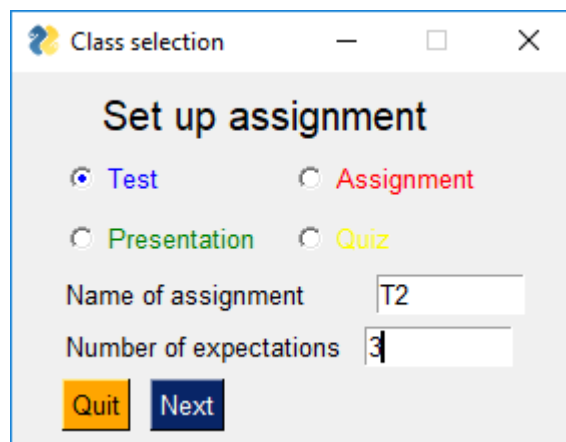


Figure 5.1

Next up you will be brought to the actual marking interfaces, there is one version for the single student and another version for the whole class. The single student's version will have 'Finish Marking' instead of 'Next Student' button like on the whole class version. On both versions, you will find sets of text boxes asking for expectation and mark, expectations only accept a letter and a number, while marks take anything that can be found on the grid (refer to 4.0). Once you are done entering the marks and

expectations, press 'Finish Marking' or 'Next student'. For whole class version, you will then need to mark this assessment for the next student (all expectations are preserved and already filled in).

Mark entry - Mike Dong

Expectation	B1
Mark	4

Expectation	B2
Mark	3+/4-

Expectation	C1
Mark	4++

Next Student

Figure 5.2 (for the whole class)

Mark entry - Mike Dong

Expectation	B1
Mark	4

Expectation	B2
Mark	3+/4-

Expectation	C1
Mark	4++

Finish Marking

Figure 5.3 (for a single student)

Editing marks and adding comments

You can edit marks and add comments by clicking on a mark on the grid (refer to 4.0) if it has a mark on it. The comments and anomaly interface (figure 6.0) will pop up and here you can see the previous comment and edit it in the text box, mark that one assessment for this student as an anomaly by checking the checkbox or delete this assessment for this student by pressing the 'Delete this assignment' button. Save all changes by pressing the 'Save' button.

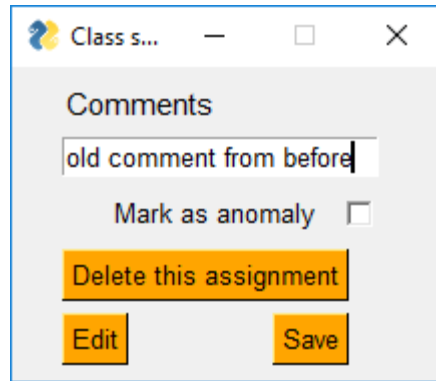


Figure 6.0

You can edit the assignment's marks by pressing the 'Edit' button, it will bring you to an interface similar to that of the marking interfaces (refer to 5.2 and 5.3) (figure 6.1). All of the marks for the student on that assignment (in this case T2) will be shown in the text boxes. Input restrictions are the same as the marking interfaces, and you can save your changes by pressing 'Finish Marking'.

A screenshot of a web application window titled 'Mark'. The window has a light gray background and a blue border. The main content area is titled 'Editing T2 for Mike Dong'. It displays a list of marks for a student named Mike Dong. The list consists of three rows, each with an 'Expectation' field and a 'Mark' field. The first row shows 'B1' for Expectation and '3+' for Mark. The second row shows 'B2' for Expectation and '4-' for Mark. The third row shows 'B3' for Expectation and '3' for Mark. At the bottom of the content area, there is a button labeled 'Finish Marking'.

Figure 6.1

Diagram of code flow

