Course

Add Course A

Preconditions:

1. Program running

Steps:

1. Select "Add Course" menu item from menu bar at top
2. Fill in correct information based on tooltip text and field names

Expected Results:

1. Pop up closes - course is successfully added

Add Course A - Failed

Preconditions:

1. Program running

Steps:

1. Select "Add Course" menu item from menu bar at top
2. Fill in incorrect information based on tooltip text and field names:
   a. Course Name is blank
   b. Credit is non number or not in [1,5]

Expected Results:

1. Error message detailing problem.
2. After closing error message user is taken back to add course page.

Add Course A - Failed 3 times

Preconditions:

1. Program running

Steps:

1. Select "Add Course" menu item from menu bar at top
2. Fill in incorrect information based on tooltip text and field names:
   a. Course Name is blank
   b. Credit is non number or not in [1,5]
3. Repeat step 2 three times

Expected Results:

1. The popup will close and will not let the user enter information again. This is because the user has exceeded the maximum tries allowed. The course is not added.

Add Course A - Cancel

Preconditions:

1. Program running

Steps:

1. Select "Add Course" menu item from menu bar at top
2. Fill in correct information based on tooltip text and field names
3. Cancel the operation (cancel button or X button)

Expected Results:

1. The popup will close and no course will be added (course not available in any drop down menus).

Edit Course A

Preconditions:

1. Course A already added

Steps:

1. Select "Edit Course" menu item from menu bar at top
2. Choose Course A to edit
3. Click the edit option
4. Fill in the correct information and hit OK

Expected Results:

5. The popup will close and the course will be updated.

Edit Course A - Fail

Preconditions:

1. Course A already added

Steps:

1. Select "Edit Course" menu item from menu bar at top
2. Choose Course A to edit
3. Click the edit option
4. Fill in incorrect information based on tooltip text and field names:
    a. Course Name is blank
    b. Credit is non number or not in [1,5]

Expected Results:

1. Error message detailing problem.
2. After closing error message user is taken back to edit course popup

Edit Course A - Fail 3 Times

Preconditions:

1. Course A already added

Steps:

1. Select "Edit Course" menu item from menu bar at top
2. Fill in incorrect information based on tooltip text and field names:
    a. Course Name is blank
    b. Credit is non number or not in [1,5]
3. Repeat step 2 three times

Expected Results:

4. The popup will close and will not let the user enter information again. This is because the user has exceeded the maximum tries allowed. The course is not edited.

Edit Course A - Cancel

Preconditions:

1. Course A already added

Steps:

1. Select "Edit Course" menu item from menu bar at top
2. Fill in correct information based on tooltip text and field names
3. Cancel the operation (cancel button or X button)

Expected Results:

1. The popup will close and the course will not be edited.

Edit Course A - No Courses

Preconditions:

1. No courses present

Steps:

1. Select "Edit Course" menu item from menu bar at top

Expected Results:

1. Popup appears with error for no courses being present to edit.

Delete Course A

Preconditions:

1. Course A already added

Steps:

1. Select "Delete Course" menu item from menu bar at top
2. Select course to delete

Expected Results:

1. The course will be removed.

Delete Course A - Cancel

Preconditions:

1. Course A already added

Steps:

1. Select "Delete Course" menu item from menu bar at top
2. Select course to delete
3. Cancel the operation (cancel button or X button)

Expected Results:

1. The popup will close and the course will not be removed.

View Course A

Preconditions:

1. Course A already added

Steps:

1. Select "View Course" menu item from menu bar at top
2. Select course to view

Expected Results:

1. A popup will open with details on the selected course.

Lecture

Add Lecture for Course A

Preconditions:

1. Course A added already

Steps:

1. Click location in panel where the user wants to add item
2. Ensure times are correct on popup
3. Select task to add as "Lecture" and click OK
4. Fill in correct information on next popup for the lecture details

Expected Results:

1. The popup will close and the lecture will be added to the GUI on the specified time with the specified details. Description will be in tooltip text.

Add Lecture for Course A - Recurring

Preconditions:

1. Course A added already

Steps:

1. Click location in panel where the user wants to add item
2. Ensure times are correct on popup
3. Select task to add as "Lecture" and click OK
4. Fill in correct information on next popup for the lecture details
   a. Ensure recurring is set to anything but "None"

Expected Results:

1. The popup will close and the lecture will be added to the GUI on the specified time with the specified details. Description will be in tooltip text.
2. As the user navigates through the weeks (in the future) it will show the Lecture occurring at the same time, either weekly or biweekly depending on what was inputted by the user.

Add Lecture for Course A - Failed

Preconditions:

1. Course A added already

Steps:

1. Click location in panel where the user wants to add item
2. Ensure times are correct on popup
3. Select task to add as "Lecture" and click OK
4. Fill in incorrect information on next popup for the lecture details:
   a. Name - cannot be empty

Expected Results:

1. Error message detailing problem.
2. After closing error message user is taken back to add course page

Add Lecture for Course A - Failed 3 times

Preconditions:

1. Course A added already

Steps:

1. Click location in panel where the user wants to add item
2. Ensure times are correct on popup
3. Select task to add as "Lecture" and click OK
4. Fill in incorrect information on next popup for the lecture details:
   a. Name - cannot be empty

Expected Results:

1. The popup will close and will not let the user enter information again. This is because the user has exceeded the maximum tries allowed.

Add Lecture for Course A - No Course

Preconditions:

1. No courses added

Steps:

1. Click location in panel where the user wants to add item

Expected Results:

1. The popup will inform user they need courses to add tasks.

Add Lecture for Course A - Cancel

Preconditions:

1. Course A added already

Steps:

1. Click location in panel where the user wants to add item
2. Ensure times are correct on popup
3. Select task to add as "Lecture" and click OK

4. Fill in correct information on next popup for the lecture details
5. Cancel operation with cancel button or X button

Expected Results:

1. The popup will close and the lecture was not added.

Edit Lecture for Course A

Preconditions:

2. Course A added already
3. Lecture A added already

Steps:

6. Click on lecture
7. On popup select "Edit"
8. Popup prefilled with current information
9. Change some fields, ensuring the updated information is valid and hit OK

Expected Results:

2. The popup will close and the lecture will be updated.

Edit Lecture for Course A - Failed

Preconditions:

1. Course A added already
2. Lecture A added already

Steps:

1. Click on Lecture A
2. On popup choose "Edit"
3. Update information with incorrect information on next popup for the lecture details:
   a. Name - cannot be empty
   b. Incorrect start and end dates

Expected Results:

1. The popup will close and the lecture will be updated.

Edit Lecture for Course A - Failed 3 Times

Preconditions:

1. Course A added already
2. Lecture A added already

Steps:

1. Click on Lecture A
2. On popup choose "Edit"
3. Update information with incorrect information on next popup for the lecture details:
    a. Name - cannot be empty
    b. Incorrect start and end dates
4. Repeat step 3 three times

Expected Results:

1. The popup will close and the lecture will not be updated. The user exceeded the maximum tries allowed.

Edit Lecture for Course A - Cancel

Preconditions:

1. Course A added already
2. Lecture A added already

Steps:

1. Click on Lecture A
2. On popup choose "Edit"
2. Update with correct information on next popup for the lecture details
3. Cancel operation with cancel button or X button

Expected Results:

1. The popup will close and the lecture was not updated.

Delete Lecture for Course A

Preconditions:

1. Course A added already
2. Lecture A added already

Steps:

1. Click on Lecture A
2. On popup choose "Delete" and select OK

Expected Results:

1. The popup will close and the lecture was deleted.

Delete Lecture for Course A - Cancel

Preconditions:

1. Course A added already
2. Lecture A added already

Steps:

1. Click on Lecture A
2. On popup choose "Delete"
3. Cancel operation with cancel button or X button

Expected Results:

1. The popup will close and the lecture was not deleted.

Quiz

The same test cases as Lecture but when selecting "Lecture" instead select "Quiz". Also there is no test case recurring as only lectures can recur. Otherwise the test cases are the same.

Assignment

The same test cases as Lecture but when selecting "Lecture" instead select "Assignment". Also there is no test case recurring as only lectures can recur. Otherwise the test cases are the same.

Other Course Related

The same test cases as Lecture but when selecting "Lecture" instead select "Other Course". Also there is no test case recurring as only lectures can recur. Otherwise the test cases are the same.

Other Personal

The same test cases as Lecture but when selecting "Lecture" instead select "Other Personal". Also there is no test case recurring as only lectures can recur. Otherwise the test cases are the same.

Too many conflicts

Preconditions:

3. Courses added already
4. Two tasks (A and B) that conflict (overlap in time) with each other already present

Steps:

4. Add another task such that it will conflict with task A and B

Expected Results:

2. A popup will inform you of there being too many conflicts and the task will not be added

Scheduler

Generate Study Schedule

Preconditions:

1. Courses added already
2. Lectures added already
3. Assignments added already
4. Quizzes added already
5. Course Other added already
6. Personal Other added already

Steps:

1. In menu select "Generate Study Schedule"

Expected Results:

1. The week should be updated with study blocks for what to study and when.

Clear Study Schedule

Preconditions:

1. Courses added already
2. Lectures added already
3. Assignments added already
4. Quizzes added already
5. Course Other added already
6. Personal Other added already

Steps:

1. In menu select "Generate Study Schedule"
2. In menu select "Clear Study Schedule"

Expected Results:

1. The week should be updated with the study blocks removed but everything else (lectures, assignments, quizzes, personal other and course other) still present.

View

View Next Week

Preconditions:

1. Courses added already
2. Lectures added already for this week and next week
3. Assignments added already for this week and next week
4. Quizzes added already for this week and next week
5. Course Other added already for this week and next week
6. Personal Other added already for this week and next week

Steps:

1. In menu select "View Next Week"

Expected Results:

1. The week should be updated with the study blocks removed but everything else (lectures, assignments, quizzes, personal other and course other) still present. It should show the correct week (next week) for the dates and the correct blocks for that week.

View Previous Week

Preconditions:

1. Courses added already
2. Lectures added already for this week and next week
3. Assignments added already for this week and next week
4. Quizzes added already for this week and next week
5. Course Other added already for this week and next week
6. Personal Other added already for this week and next week

Steps:

1. In menu select "View Previous Week"

Expected Results:

1. The week should be updated with the study blocks removed but everything else (lectures, assignments, quizzes, personal other and course other) still present. It should show the correct week (previous week) for the dates and the correct blocks for that week.

Report

Generate Report (Blank Calendar)

Preconditions:

1. No courses nor tasks have been added to the calendar

Steps:

1. In menu, select "Report" and "Generate Report"
2. Use the default reporting period and select "Ok"

Expected Results:

1. The Report window should open and display the default reporting period

2. A message detailing that there isn't enough information to generate a chart should be displayed
3. The report should display that there were 0 lectures and 0 course related tasks

Generate Report (Invalid Reporting Period)

Preconditions:

1. Program is running

Steps:

1. In menu, select "Report" and "Generate Report"
2. Set the end date of the reporting period to be the day before the default start date
3. Select "Ok"

Expected Results:

1. A report should not be generated; a popup will explain the error

Generate Report (Information to Report and Valid Period)

Preconditions:

1. 2 courses have been added
2. 1 quiz has been added for one course, 1 quiz and 1 non-recurring lecture has been added for the other course

Steps:

1. In menu, select "Report" and "Generate Report"
2. Set the reporting period to encapsulate the 3 tasks added to the calendar
3. Select "Ok"

Expected Results:

1. A report should be generated detailing in the header the set reporting period
2. A pie chart should be generated detailing the presence of 2 courses and their names / corresponding colour
3. One should have an allocated percentage of 50% and the other course should have an allocated percentage of 50% thus showing the amount of time spent on assignments
4. The text in the report should detail 1 lecture, 2 quizzes/assignments and 0 other tasks within this period

Saving a Report

1. A report has been generated and the window is currently open

Steps:

1. In the report window's menu, select "File" and "Save"
2. Select a directory to save the report in
3. Select "Ok"

Expected Results:

1. An image should be saved to the specified location showing the same results as the report window

Closing a Report (Through frame)

Preconditions:

1. A report window is open

Steps:

1. Exit the frame using the "x"

Expected Results:

1. The report window should close, with the calendar remaining open

Closing a Report (Through menu)

Preconditions:

1. A report window is open

Steps:

1. In the menu, select "File" and "Close"

Expected Results:

1. The report window should close, with the calendar remaining open

Saving and Loading

Loading Calendar (No saved calendar)

Preconditions:

1. Program is not running
2. No "cal_save.cal" file is present

Steps:

1. Run the program

Expected Results:

1. The program should display an empty calendar

Loading Calendar (Saved calendar)

Preconditions:

1. Program is not running
2. A populated "cal_save.cal" file is present in the program's directory

Steps:

1. Run the program

Expected Results:

1. The program should display the calendar which was saved detailing all lectures and tasks.

Saving Calendar (No current saved calendar)

Preconditions:

1. A populated calendar with lectures and tasks is currently loaded in the program

Steps:

1. In the menu, select "File" and "Save"

Expected Results:

1. A popup should detail the success or failure (induced by lack of storage space) of the calendar saving process
2. A "cal_save.cal" should appear in the program's directory

Saving Calendar (Saved calendar present)

Preconditions:

1. A populated calendar with lectures and tasks is currently loaded in the program

Steps:

1. In the menu, select "File" and "Save"

Expected Results:

1. A popup should detail the success or failure (induced by lack of storage space) of the calendar saving process
2. The current "cal_save.cal" file should be overwritten

JUnit

Tests for *TaskManager* included in the Java code as JUnit test cases *(TestTaskManager.java)*. It has the following test case functions:

*   junitClean()
*   junitTestFunctions()
*   junitTestCourses()
*   junitTestReport()
*   stressTest()
    *   This will also manually test with saving an ierationSize of 100, which translates to 100 Courses and 10 000 Course Tasks.