

Supplementary Note

Assumption

I assume the following in my Task 1 implementation:

- 1) As there is no case handling for students to enroll in courses, Students are enrolled in all courses in our system. Students are assumed to be able to take any exams created and published from all courses.
- 2) Students are assumed only to be able to conduct 1 exam at 1 time, that student cannot participate in 2 exams at the same time. Once students start their exam, only after they finish and submit their exam they can take another one.

Extra Implemented Features

- 1) Students set Password

Students have the following limitations when set their Password

Password should contain:

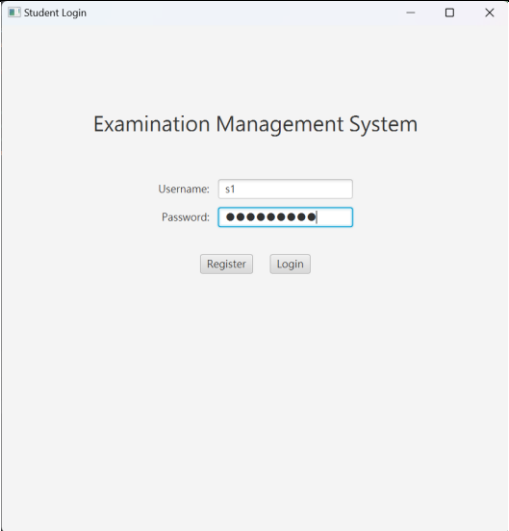
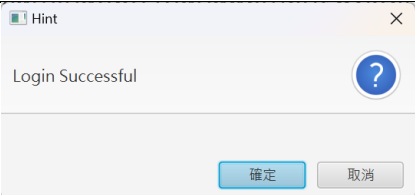
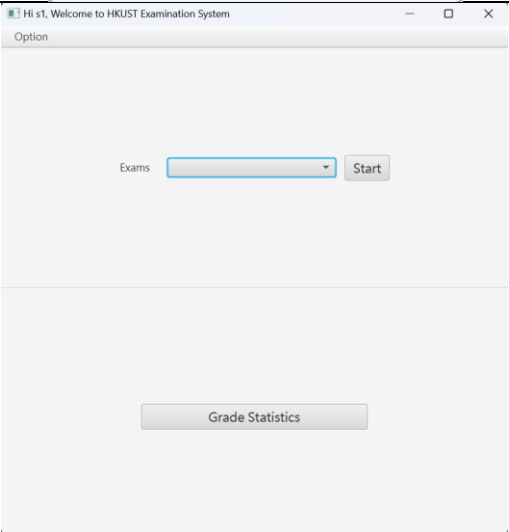
1. At least 1 special character from "!@\$%^&* _ + < > / -"
2. At least 1 number from 0 to 9
3. At least 1 small letter from a to z
4. At least 1 capital letter from A to Z
5. No blank space

- 2) Clickable Question Cell in Question Side Column in Student Start Exam Screen
Clicking Question cell in Question Column on the left side will make the Student Start Exam Screen change to display content for that question.
- 3) Students Conduct Exam Time's up
When Students have no remaining time to complete their exam (i.e. Time's up), Student's attempt will be automatically submitted.
- 4) Students View Grade
Students can view the percentage of correctness for each question type for every exam conducted by clicking their submission row in the grade table displaying the list of exams conducted.

Screenshot for sample input and output

TASK 1.1: Handling the student's login

Basic Flow

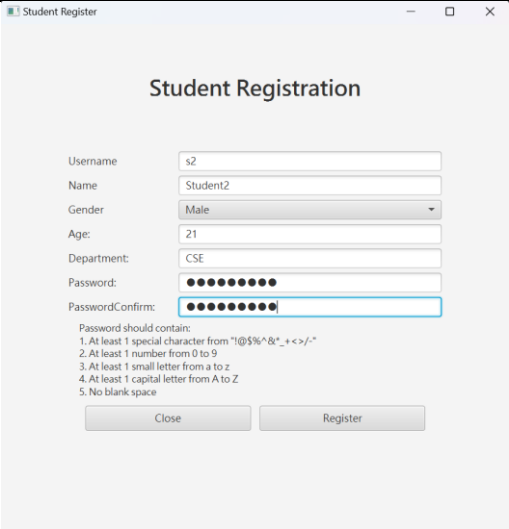
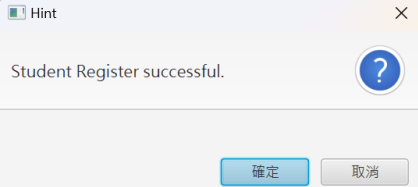
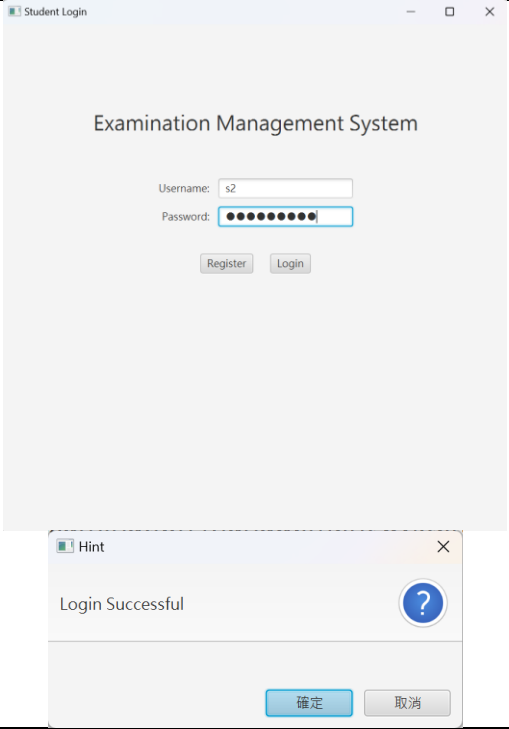
Student login to system		
Student Type in Username & Password		
Successful Login Message Box display		
Go to Student Main Screen		

Alternative Flow

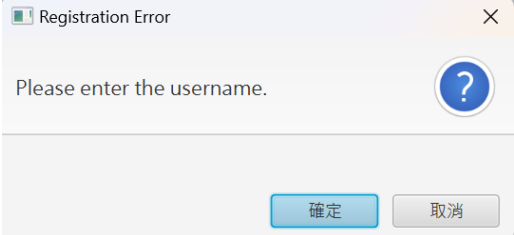
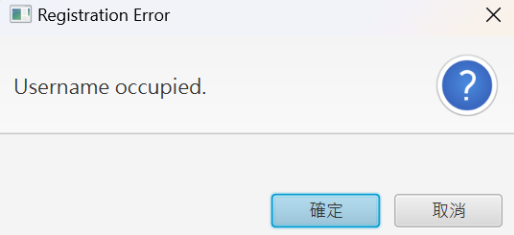
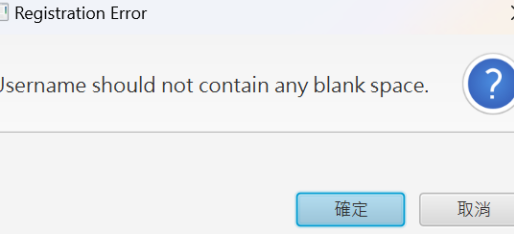
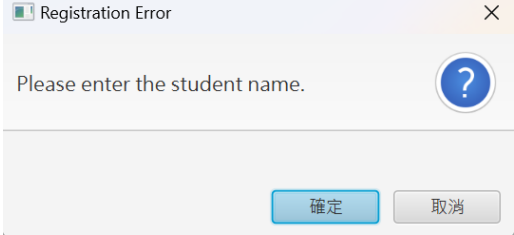
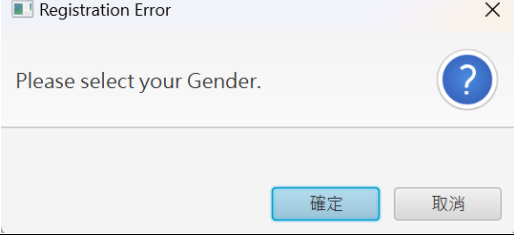
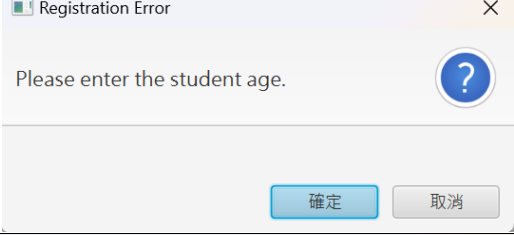
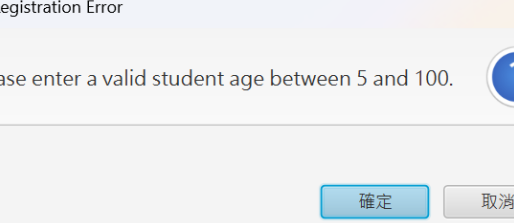
Student login to system with incorrect Username / incorrect Password		
Student type in Username & Password		
Login Error Message Box display		
Remain in Student Login Screen		

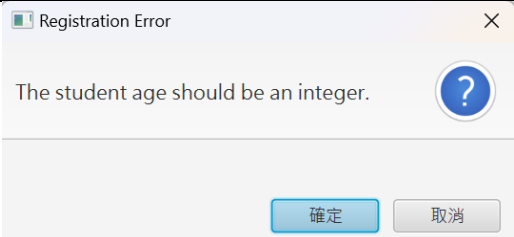
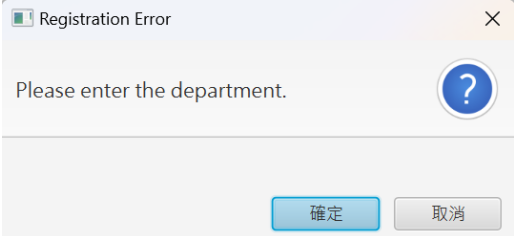
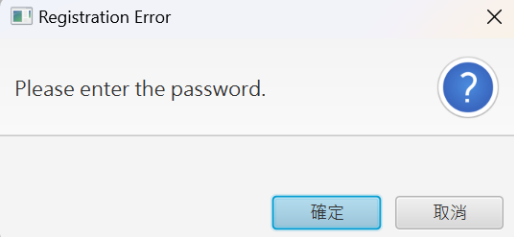
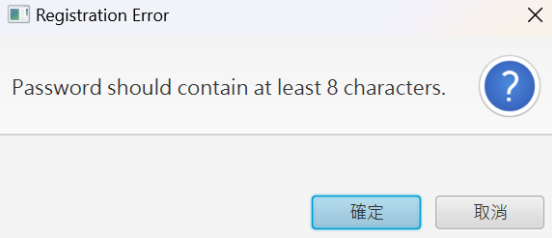
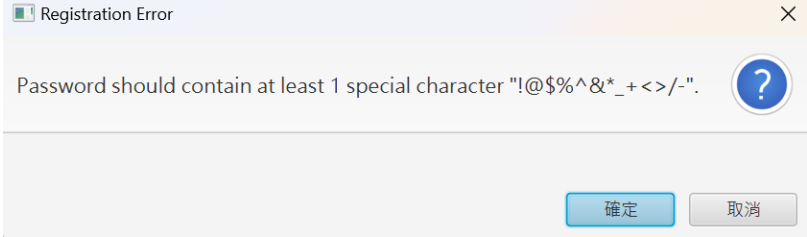
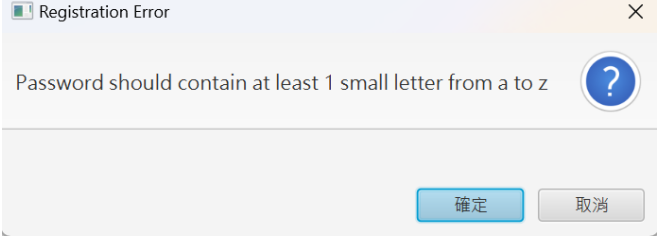
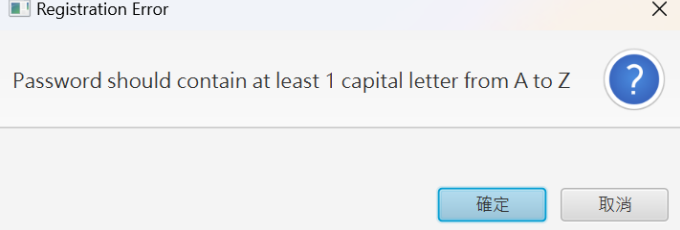
TASK 1.1.1: Handling the student's registration

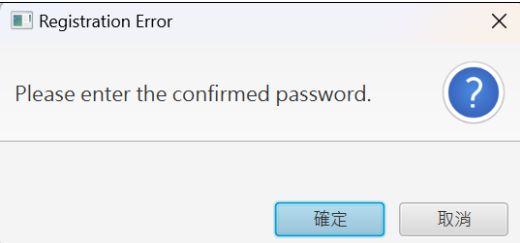
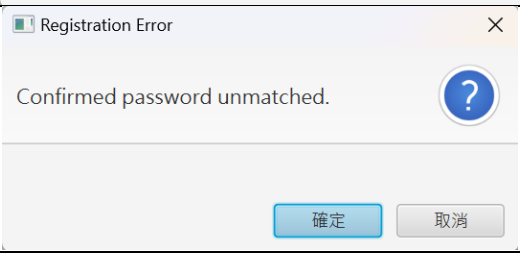
Basic Flow

Student register an account		
Student type in Username, Name, Age, Department, Password & PasswordConfirm and select Gender		
Successful Register Message Box display		
Student can login with registered account		

Alternative Flow

Student register an account with problematic inputs		
Student did not type in Username		 <p>Registration Error</p> <p>Please enter the username.</p> <p>確定 取消</p>
Student type in Username occupied by others		 <p>Registration Error</p> <p>Username occupied.</p> <p>確定 取消</p>
Student inputted Username contains blank space(s)		 <p>Registration Error</p> <p>Username should not contain any blank space.</p> <p>確定 取消</p>
Student did not type in Name		 <p>Registration Error</p> <p>Please enter the student name.</p> <p>確定 取消</p>
Student did not select Gender		 <p>Registration Error</p> <p>Please select your Gender.</p> <p>確定 取消</p>
Student did not input Age		 <p>Registration Error</p> <p>Please enter the student age.</p> <p>確定 取消</p>
Student input invalid number for Age		 <p>Registration Error</p> <p>Please enter a valid student age between 5 and 100.</p> <p>確定 取消</p>

Student input non-numeric input for Age		 <p>Registration Error</p> <p>The student age should be an integer.</p> <p>確定 取消</p>	
Student did not input Department		 <p>Registration Error</p> <p>Please enter the department.</p> <p>確定 取消</p>	
Student did not input Password		 <p>Registration Error</p> <p>Please enter the password.</p> <p>確定 取消</p>	
Student input Password with less than 8 characters		 <p>Registration Error</p> <p>Password should contain at least 8 characters.</p> <p>確定 取消</p>	
Student input Password without special characters		 <p>Registration Error</p> <p>Password should contain at least 1 special character "!@\$%^&*_+<>/-".</p> <p>確定 取消</p>	
Student input Password without small letters		 <p>Registration Error</p> <p>Password should contain at least 1 small letter from a to z</p> <p>確定 取消</p>	
Student input Password without capital letters		 <p>Registration Error</p> <p>Password should contain at least 1 capital letter from A to Z</p> <p>確定 取消</p>	

Student did not input PasswordConfirm		 <p>The dialog box is titled "Registration Error" with a close button (X) in the top right corner. It contains a question mark icon in a blue circle and the text "Please enter the confirmed password." Below the text are two buttons: "確定" (Confirm) and "取消" (Cancel).</p>	
Student input unmatched PasswordConfirm		 <p>The dialog box is titled "Registration Error" with a close button (X) in the top right corner. It contains a question mark icon in a blue circle and the text "Confirmed password unmatched." Below the text are two buttons: "確定" (Confirm) and "取消" (Cancel).</p>	

TASK 1.2: Quiz selection screen

Student choose which exam to conduct																																	
Current Outstanding Exam	<div><div>Exam Management</div><div><div>Exam Bank</div><div><div>Exam Name</div><div>Course ID</div><div>Published</div><div>Reset</div><div>Filter</div></div><table><tr><th>Exam Name</th><th>Course ID</th><th>Exam Time</th><th>Published</th></tr><tr><td>Exam</td><td>MATH1000</td><td>60</td><td>yes</td></tr><tr><td>Quiz</td><td>MATH1000</td><td>50</td><td>yes</td></tr><tr><td>Quiz</td><td>COMP3111</td><td>50</td><td>no</td></tr><tr><td>Exam</td><td>COMP3111</td><td>80</td><td>yes</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></div></div>	Exam Name	Course ID	Exam Time	Published	Exam	MATH1000	60	yes	Quiz	MATH1000	50	yes	Quiz	COMP3111	50	no	Exam	COMP3111	80	yes												
Exam Name	Course ID	Exam Time	Published																														
Exam	MATH1000	60	yes																														
Quiz	MATH1000	50	yes																														
Quiz	COMP3111	50	no																														
Exam	COMP3111	80	yes																														
Exam Choices in ChoiceBox in Main Screen Note: s1 haven't conducted any exam yet	<div><div>Hi s1, Welcome to HKUST Examination System</div><div>Option</div><div><div>Exams</div><div>MATH1000-Exam</div><div>MATH1000-Quiz</div><div>COMP3111-Exam</div><div>Start</div></div><div>Grade Statistics</div></div>																																
Student Start to conduct MATH1000-Exam	<div><div>Hi s1, Welcome to HKUST Examination System</div><div>Option</div><div><div>Exams</div><div>MATH1000-Exam</div><div>Start</div></div><div>Grade Statistics</div></div>																																

TASK 1.2.1: Exam screen

Student (s1) start Exam (MATH-1000-Exam)

Exam Detail for MATH1000-Exam

Exam Management

Exam Bank

Question in Exam

Question Bank

Exam Screen

Start Exam

MATH1000-Exam

Total Question: 7

Remain Time: 56

Questions

Single Question: A

Multiple Question: AB

True/ False Question: T

True/ False Question: F

Single Question: B

Short Question: short question

Short Question: SQ

Single Question: A

A. A

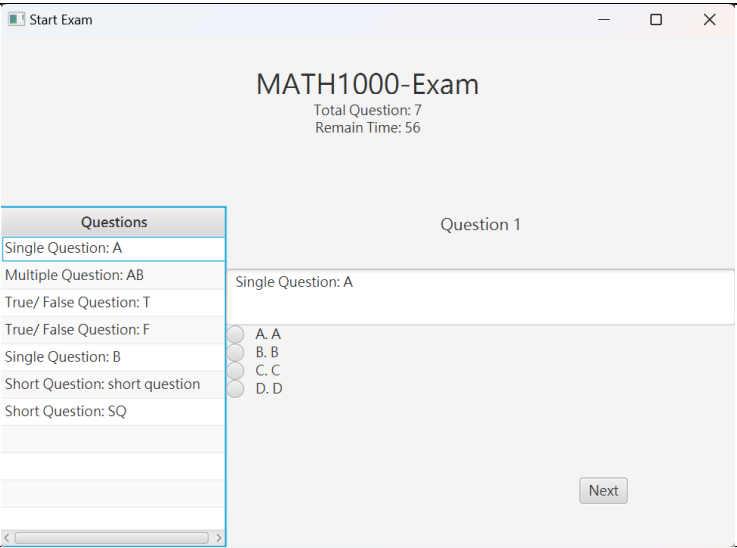
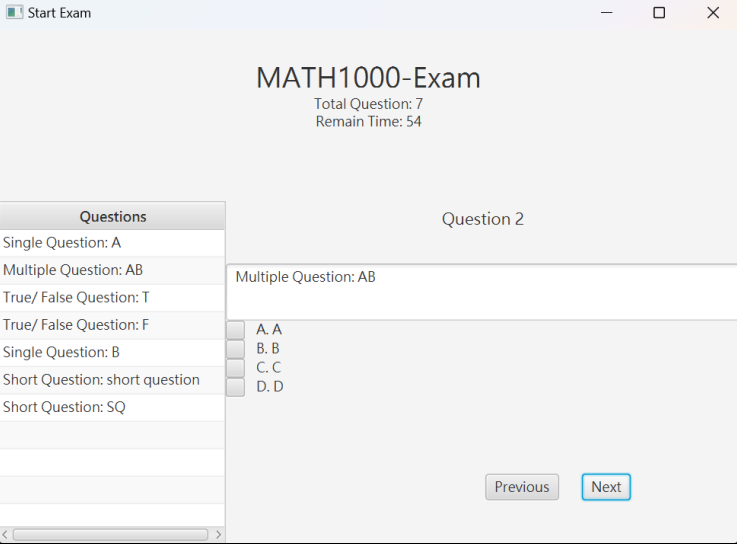
B. B

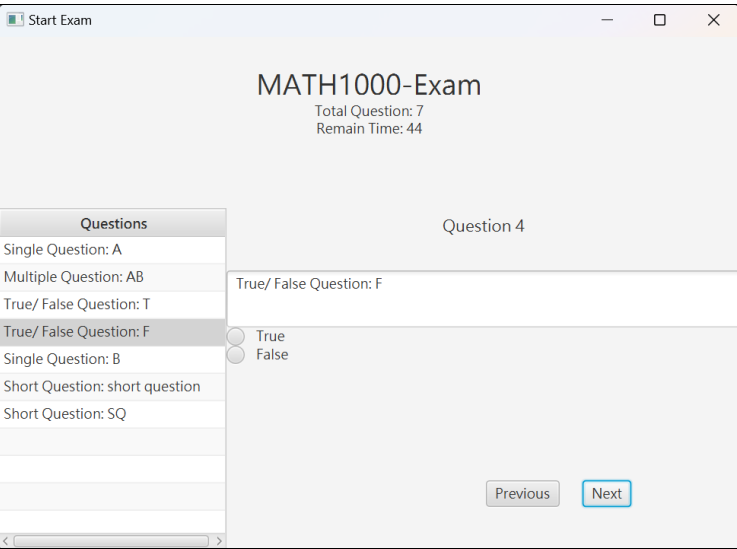
C. C

D. D

Next

TASK 1.2.1.1: Previous, Next Button and Question Cell OnClick action (Switching Question)

Student click Next Button		
Before		
After		

Student click Previous Button		
Before		

After

Start Exam

MATH1000-Exam

Total Question: 7
Remain Time: 26

Questions

Single Question: A

Multiple Question: AB

True/ False Question: T

True/ False Question: F

Single Question: B

Short Question: short question

Short Question: SQ

Question 3

True/ False Question: T

True

False

PreviousNext

Student click Question Cell

Before
(Question 4
to be clicked)

Start Exam

MATH1000-Exam

Total Question: 7
Remain Time: 56

Questions

Single Question: A

Multiple Question: AB

True/ False Question: T

True/ False Question: F

Single Question: B

Short Question: short question

Short Question: SQ

Question 1

Single Question: A

A. A

B. B

C. C

D. D

Next

After

Start Exam

MATH1000-Exam

Total Question: 7
Remain Time: 54

Questions

Single Question: A

Multiple Question: AB

True/ False Question: T

True/ False Question: F

Single Question: B

Short Question: short question

Short Question: SQ

Question 4

True/ False Question: F

True

False

PreviousNext

TASK 1.2.1.2: Question Display for different Question Types

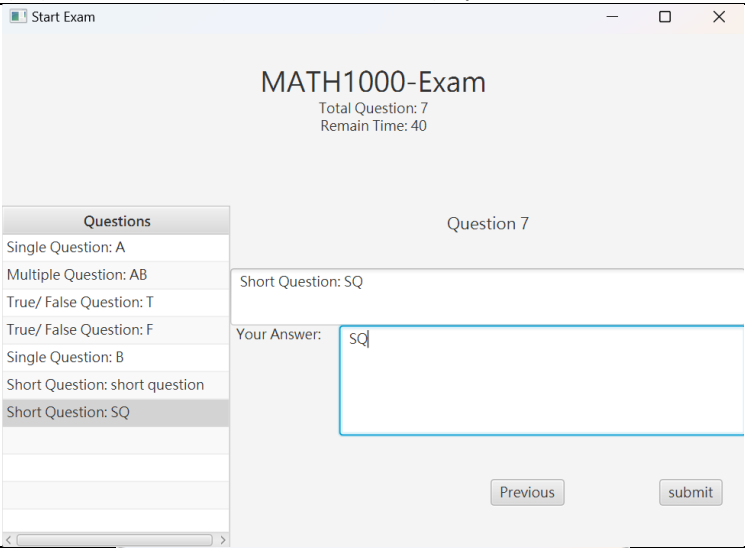
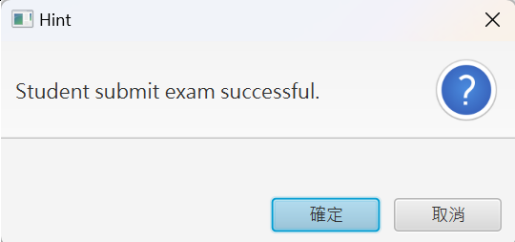
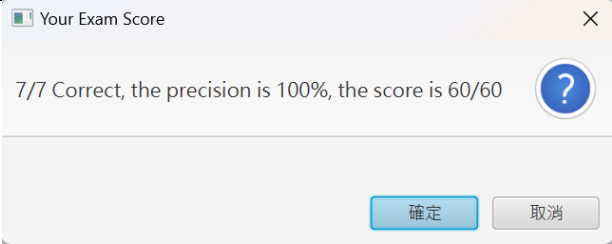
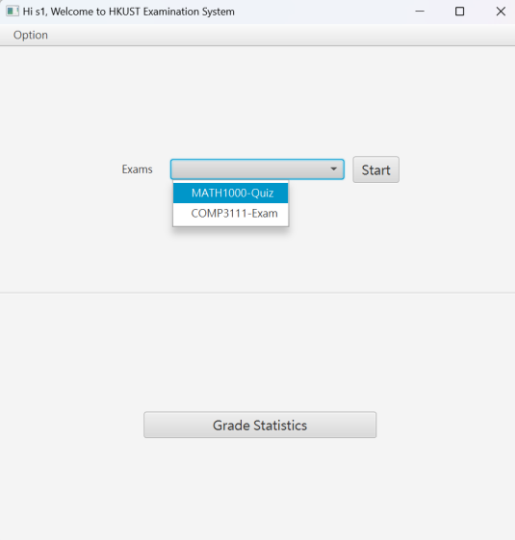
Single-selected Multiple Choice Question	
Radio Buttons	<div><div>Start Exam</div><div>MATH1000-Exam Total Question: 7 Remain Time: 56</div><div>Questions</div><div>Single Question: A</div><div>Multiple Question: AB</div><div>True/ False Question: T</div><div>True/ False Question: F</div><div>Single Question: B</div><div>Short Question: short question</div><div>Short Question: SQ</div><div>Single Question: A</div><div><div><input type="radio"/> A. A</div><div><input type="radio"/> B. B</div><div><input type="radio"/> C. C</div><div><input type="radio"/> D. D</div></div><div>Next</div></div>

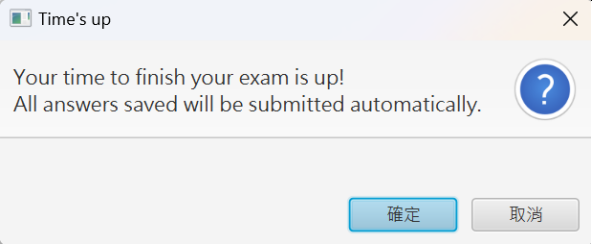
Multiple-selected Multiple Choice Question	
Checkboxes	<div><div>Start Exam</div><div>MATH1000-Exam Total Question: 7 Remain Time: 55</div><div>Questions</div><div>Single Question: A</div><div>Multiple Question: AB</div><div>True/ False Question: T</div><div>True/ False Question: F</div><div>Single Question: B</div><div>Short Question: short question</div><div>Short Question: SQ</div><div>Multiple Question: AB</div><div><div><input checked="" type="checkbox"/> A. A</div><div><input checked="" type="checkbox"/> B. B</div><div><input checked="" type="checkbox"/> C. C</div><div><input checked="" type="checkbox"/> D. D</div></div><div><div>Previous</div><div>Next</div></div></div>

True / False Question	
Radio Buttons True / False Options only	<div><div>Start Exam</div><div><div>MATH1000-Exam</div><div>Total Question: 7 Remain Time: 55</div></div><div><div>Questions</div><div>Single Question: A</div><div>Multiple Question: AB</div><div>True/ False Question: T</div><div>True/ False Question: F</div><div>Single Question: B</div><div>Short Question: short question</div><div>Short Question: SQ</div></div><div><div>Question 3</div><div>True/ False Question: T</div><div><div><input type="radio"/> True</div><div><input type="radio"/> False</div></div><div><div>Previous</div><div>Next</div></div></div></div>

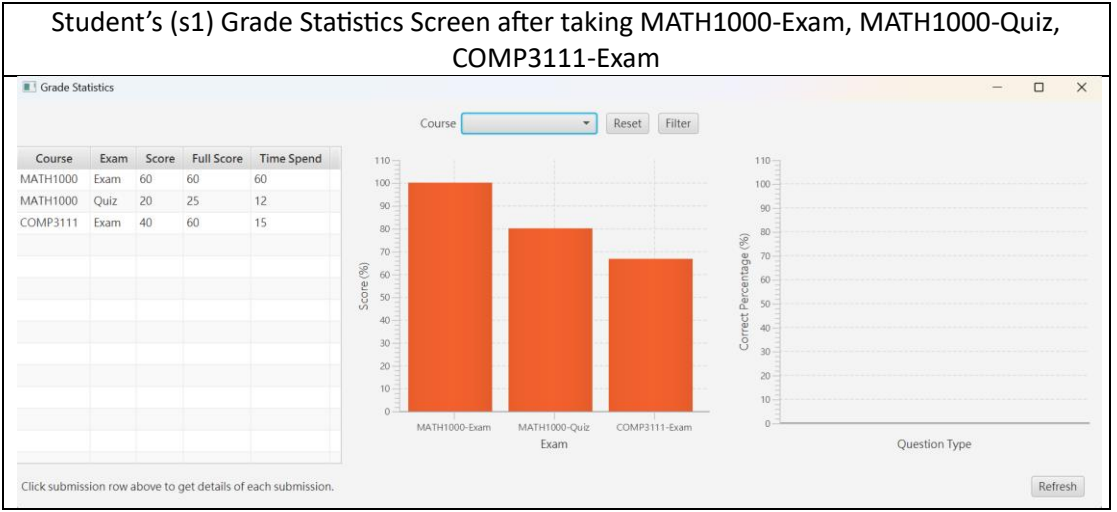
Short Question	
TextField for student inputting answer	<div><div>Start Exam</div><div><div>MATH1000-Exam</div><div>Total Question: 7 Remain Time: 57</div></div><div><div>Questions</div><div>Single Question: A</div><div>Multiple Question: AB</div><div>True/ False Question: T</div><div>True/ False Question: F</div><div>Single Question: B</div><div>Short Question: short question</div><div>Short Question: SQ</div></div><div><div>Question 7</div><div>Short Question: SQ</div><div>Your Answer: <input type="text"/></div><div><div>Previous</div><div>submit</div></div></div></div>

TASK 1.2.1.3: Student Submit Exam

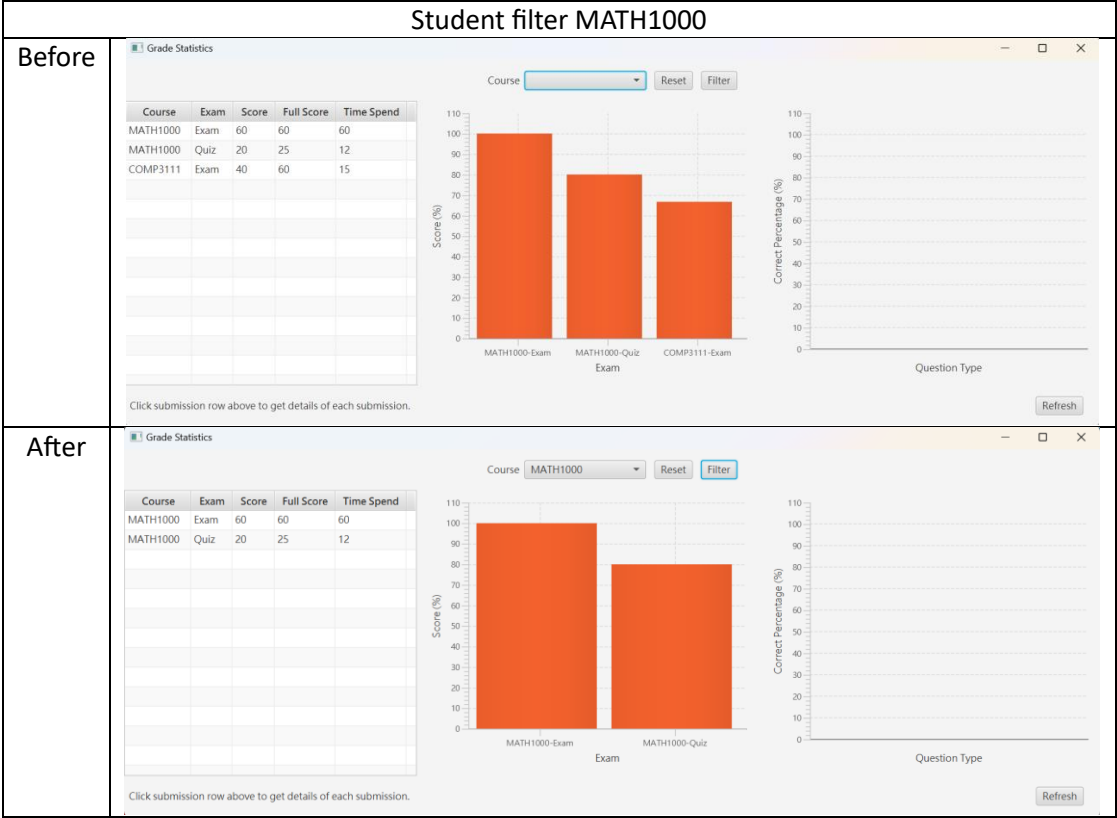
Student (s1) Submit Exam (MATH1000-Exam) by Submit Button	
Before	 <p>The screenshot shows the 'MATH1000-Exam' window. At the top, it says 'Total Question: 7' and 'Remain Time: 40'. Below this, there's a 'Questions' list on the left with options like 'Single Question: A', 'Multiple Question: AB', etc. The main area shows 'Question 7' with a 'Short Question: SQ' prompt. A text input field contains 'SQ'. At the bottom right, there are 'Previous' and 'submit' buttons.</p>
After	 <p>The screenshot shows a 'Hint' dialog box with the message 'Student submit exam successful.' and a question mark icon. At the bottom, there are '確定' (Confirm) and '取消' (Cancel) buttons.</p>
Score Message Box	 <p>The screenshot shows a 'Your Exam Score' dialog box with the message '7/7 Correct, the precision is 100%, the score is 60/60' and a question mark icon. At the bottom, there are '確定' (Confirm) and '取消' (Cancel) buttons.</p>
	 <p>The screenshot shows the 'Hi s1, Welcome to HKUST Examination System' window. It has a title bar and a menu bar. Below the menu bar, there's a section for 'Exams' with a dropdown menu showing 'MATH1000-Quiz' and 'COMP3111-Exam'. A 'Start' button is next to it. At the bottom, there's a 'Grade Statistics' button.</p>

Student (s1) Submit Exam (MATH1000-Exam) automatically after Time's Up		
Message Box		
After	*Same as Submit manually using Submit Button	

TASK 1.3: Show the Grade Statistics



TASK 1.3.1: Course Filter



TASK 1.3.2: Reset and Refresh Button onClick action

Student click Reset Button

Before

Grade Statistics

Course	Exam	Score	Full Score	Time Spend
MATH1000	Exam	60	60	60
MATH1000	Quiz	20	25	12

Course

MATH1000

Reset

Filter

Score (%)

MATH1000-Exam

MATH1000-Quiz

Exam

110

100

90

80

70

60

50

40

30

20

10

0

100

80

Correct Percentage (%)

Question Type

110

100

90

80

70

60

50

40

30

20

10

0

Refresh

Click submission row above to get details of each submission.

After

Grade Statistics

Course	Exam	Score	Full Score	Time Spend
MATH1000	Exam	60	60	60
MATH1000	Quiz	20	25	12

Course

Reset

Filter

Score (%)

MATH1000-Exam

MATH1000-Quiz

Exam

110

100

90

80

70

60

50

40

30

20

10

0

100

80

Correct Percentage (%)

Question Type

110

100

90

80

70

60

50

40

30

20

10

0

Refresh

Click submission row above to get details of each submission.

Student click Refresh Button

Before

Grade Statistics

Course	Exam	Score	Full Score	Time Spend
MATH1000	Exam	60	60	60
MATH1000	Quiz	20	25	12

Course

Reset

Filter

Score (%)

MATH1000-Exam

MATH1000-Quiz

Exam

110

100

90

80

70

60

50

40

30

20

10

0

100

80

Correct Percentage (%)

Question Type

110

100

90

80

70

60

50

40

30

20

10

0

Refresh

Click submission row above to get details of each submission.

After

Grade Statistics

Course	Exam	Score	Full Score	Time Spend
MATH1000	Exam	60	60	60
MATH1000	Quiz	20	25	12
COMP3111	Exam	40	60	15

Course

Reset

Filter

Score (%)

MATH1000-Exam

MATH1000-Quiz

COMP3111-Exam

Exam

110

100

90

80

70

60

50

40

30

20

10

0

100

80

70

Correct Percentage (%)

Question Type

110

100

90

80

70

60

50

40

30

20

10

0

Refresh

Click submission row above to get details of each submission.

TASK 1.3.3: Submission row onClick action

