

White Box Testing and Defect Correction

Team 5

BLACK BOX DEFECTS

Defect No	Defect Description	How to correct the defect	Module in which the defect is found	Severity (S1, S2 or S3)
1	For Instructor client, after the “Create Test” is chosen, it prompt a window to open file.	change InstructorTestify. main(new String[] {"open"}); to InstructorTestify. main(new String[] {""});	createTestButtonActionPerformed in InstructorFirstScreen.java	S2
2	For Instructor client, after the “Create Test” is chosen, and cancel button is clicked, it shows the panel of creating new question but point earned field is not shown	uncomment the pointsEarnedTextField.setEnabled(true);	loadQuestion in InstructorTestify.java	S1
3	For Instructor client, after the “Create Test” is chosen, and cancel button is clicked, only the panel for “everything” types of questions, users can enter the prompt, answer and file.	set all the buttons and textfield to setEnabled(true); in the newTest	newTest in InstructorTestify.java	S1
4	For Instructor client, after the “Create Test” is	((MultipleChoice) question).addChoice(newChoice);	addChoiceButtonActionPerformed in	S1

	chosen, and cancel button is clicked, only the panel for “everything” types of questions, when a new choice is added, exception is thrown.	is repeated twice. comment or delete one of them	InstructorTestify.java	
5	For Instructor client, when a new test is created, it allows users to click previous and next buttons, which should not be allowed.	should check if the test is empty before enabling the next/ previous question button	nextQButtonActionPerformed/ prevQButtonActionPerformed in InstructorTestify.java	S1
6	For Instructor client, when a new test is created, it allows users to enter prompt, answer, choices and file information, which should not be allowed.	check if the test is empty before enabling prompt answer and choices	loadQuestion in InstructorTestify.java	S1
7	For Student Client, it happens when the first question of a test file never appears.	The counter of questionIndex in the method NextActionPerformed should be incrementing based on click instead of if((questionIndex - 1) % 3 == 0 && questionIndex < questions.size() -	NextActionPerformed in StudentTestify.java	S2

		2) questionIndex += 2;		
8	For Student Client, if the test file has more five questions, the question three never appears.	The counter for question index should be increment/decrement depending on clicking. simply comment out the if statement and add questionIndex++;	PreviousActionPerformed/NextActionPerformed in StudentTestify.java	S2
9	For Student Client, it happens when user cannot submit the test after he finish the last question.	uncomment the oos.close();to close the stream and uncomment the PrevNextControl.setVisible(false);	saveTestObject in StudentTestify.java	S2
10	For Student Client, system appear the “open Test” button after user submit the test rather than “exit Test” button.	change exit.setText("Open Test"); to exit.setText("Exit test");	initcomponents in StudentTestify.java	S2
11	For Instructor client, when the Auto-grade Multiple Choice is clicked, exception is thrown.	check if the multiple choice is empty before autograde	autogradeMenuItemActionPerformed in GraderTestify.java	S1
12	For Instructor client, negative numbers are valid numbers for points possible.	check the number is >0&&<100 before assign to the question	pointsPossibleTextFieldActionPerformed in InstructorTestify.java	S3

13	For Instructor client, after a student test is opened, when the show summary button is clicked, exception is thrown	check if the test is empty before doing show summary	summaryButtonActionPerformed in GraderTestify.java	S1
14	For Instructor client, after a student test is opened, when the save as is clicked on the menu bar, exception is thrown.	check if the test is empty before calling the test.save()	saveAsMenuItemActionPerformed in InstructorTestify.java	S1
15	For Instructor client, after a student test is opened, when the save is clicked, exception is thrown.	check if the test is empty before calling test.save	saveMenuItemActionPerformed in InstructorTestify.java	S1
16	For Instructor client, when a student test is opened, neither prompt or choices are shown.	add promptTextArea.setEnabled(true) in newTest	newTest in InstructorTestify.java	S1
17	For Instructor client, when it tried to open key, when a student test is chosen, neither the student answer or the key answer are shown.	keyAnswerTextArea.setText(test.getQuestion(current - 1).getAnswer()); should be changed to keyAnswerTextArea.setText(test.getQuestion(current).getAnswer());	loadKeyAnswer in GraderTestify.java	S1

18	For Instructor client, when it tried to open key, it throws exception if the key file is empty	check if the key file is empty before opening it in the openKeyMenuItemActionPerformed() method	openKeyMenuItemActionPerformed in GraderTestify.java	S1
19	For Instructor client, when it tries to open a test saved by student client, exception is thrown.	check if the test is empty before open the test	open in Test.java	S1
20	For Instructor client, when clicked create Test, a window pops up to select existing test.	change InstructorTestify.main(new String[]{"open"}); to InstructorTestify.main(new String[]{""});	createTestButtonActionPerformed in InstructorTestify.java	S2
21	For Instructor client, when clicked grade test, no window to select the existing test.	Add a JFileChooser for the user to choose a file	GraderTestify module in GraderTestify.java	1
22	For Instructor client, when grading test, there is no available action to select student exams.	Add a JButton for selection use	initComponents module in GraderTestify.java	1
23	For Instructor client, when save and load a test, answer is not loaded.	Add code to call question.setAnswer whenever the questions are saved	saveQuestion module in InstructorTestify.java	2
24	For Instructor	The defect is	loadQuestion	2

	client, when save and load a test, points possible is not loaded.	caused by not updating the text field. Thus we just need to add one line of code to set the pointsPossibleTextfield when loading a question	module in InstructorTestify.java	
25	For Instructor client, when save and load a test, no indication of question number.	Change for(int i = 0; i < test.length() - 1; i++) to for(int i = 0; i < test.length(); i++). That is, remove the "-1"	reconstructComboBox module in InstructorTestify.java	2
26	For Instructor client, after loading a test, and edit the exam, previously saved question number pops up. But no further information is shown.	Add code to load prompt, answer and points possible correctly when initializing	loadQuestion module in InstructorTestify.java	2
27	For Instructor client, when editing multiple choice questions, adding a choice will add two same choices in the options.	There are duplicated lines of code to call addChoice (there are two). Delete one of them	addChoiceButtonActionPerformed module in InstructorTestify.java	2
28	For Instructor client, when loading a test with multiple choice question, no information is	Call setAnswer in the first place so they can be loaded for future use	saveQuestion module in InstructorTestify.java	2

	loaded.			
29	For Instructor client, in a loaded test, clicking next&previous, warning will pop up with “you must enter a prompt”, but prompt is supposed to save in the question.	Load prompt correctly when the test is loaded	loadQuestion module in InstructorTestify.java	2
30	For Instructor client, when clicked edit test, it performs as grading test.	Change action performed for edit button (call InstructorTestify.main(new String[]{"open"}));)	editTestButtonActionPerformed module in InstructorFirstScreen.java	2
31	For Instructor client, in edit test, exit does not close the window.	Call this.dispose method for exit button action performed	exitMenuItemActionPerformed module in InstructorTestify.java	3
32	For Instructor client, save button actually performs as save as button.	change the function, which is under the save item addactionListener, to saveasMenuItemActionPerformed in the file	saveMenuItem.addActionListener module in InstructorTestify.java	2
33	For Instructor client, save as button actually performs as save.	change the function, which is under the save as item addactionListener, to saveMenuItemActionPerformed in the file	saveAsMenuItem.addActionListener module in InstructorTestify.java	2

34	For Instructor client, when click next between questions, it goes to the previous question.	change the function, which is under the nextQButton addActionListener, to prevQButtonActionPerformed in the file	nextQButton.addActionListener module in InstructorTestify.java	2
35	For Instructor client, when click previous between questions, it goes to the next question.	change the function, which is under the prevQButton addActionListener, to nextQButtonActionPerformed in the file	prevQButton.addActionListener module in InstructorTestify.java	2
36	For Instructor client, when deleting a question, no index change is shown.	In function deleteMenuItemActionPerformed, add code to change the view of the question.	deleteMenuItemActionPerformed function in InstructorTestify.java	2
37	For Instructor client, after creating questions, switch to different questions will result in warning.	Add exception handler for functions of switching to other questions.	prevQButton.addActionListener, nextQButton.addActionListener module in InstructorTestify.java	2
38	For Instructor client, save and save as have their opposite functions.	In function saveMenuItemActionPerformed, correct the code to perform as save, In function saveAsMenuItemActionPerformed, correct the code.	saveMenuItemActionPerformed, saveAsMenuItemActionPerformed in InstructorTestify.java	1

39	For Instructor client, when editing the property of the test, changing the Start Time and End Time will result in error.	Add exception handler for two-digit hours in Time	Time module in Time.java	2
40	For Instructor client, no action can be done in editing properties.	There are three lines of code for property panel. They are entered twice. Delete one of them	showProperties module in InstructorTestify.java	2
41	For Instructor client, when a window is shown to choose a test, and cancel button is click, it jumps to the window of creating new question.	add an if statement for cancel button click and call this.dispose()	openExam module in InstructorTestify.java	2
42	For Instructor client, on the editing/creating test panel, after language is changed, an exception is thrown.	add exception handler and print according error information	languageComboBoxActionPerformed module in InstructorTestify.java	1
43	For Instructor client, on the editing/creating test panel, in the field of “Points Possible”, it is allowed to enter other characters beside numbers.	use JFormattedTextField instead of JTextField for number input	initComponents module in InstructorTestify.java	1

44	For Instructor client, it allows to new a test/question before saving the current one on the editing/creating panel and no message is shown.	add a boolean variable indicating if the test has been updated since the last save	variables module in Test.java	1
45	For Instructor client, it allows users to create a question before creating a new test.	create a new test as a default move when initializing InstructorTestify window	InstructorTestify module in InstructorTestify.java	2
46	For Instructor client, on the properties panel, nothing will be done after the cancel button is clicked.	add this.dispose for cancel button action performed	cancelButtonActionPerformed module in PropDialog.java	1
47	For Instructor client, on the properties panel, after the apply button is clicked, the panel doesn't disappear and the changed properties is not applied.	There are three lines of code for property panel. They are entered twice. Delete one of them	showProperties module in InstructorTestify.java	1
48	For Instructor client, for programming questions, the compile button is not shown.	Add a compile button.	initComponent module in InstructorTestify.java	1
49	For Instructor	The defect is	loadQuestion	2

	client, in creation of questions, you cannot assign different points possible for different questions.	caused by not updating the text field. Thus we just need to add one line of code to set the pointsPossTextFie ld when loading a question	module in InstructorTestify.j ava	
50	For Instructor client, in creation of a multiple choice question, you cannot really delete a choice. That is, when you delete a choice and add a new choice, the deleted one appears again.	Add lines of code to call MultipleChoice.re moveChoice method to remove that choice in the MC question	deleteChoiceButt onActionPerformed module in InstructorTestify.j ava	2
51	For Instructor client, when you create a multiple choice question and try to create a new test, the choices left there in the choices box.	Update the choices box when New question is added	newSAActionPerf ormed, newMCActionPe rformed and newProgActionPe rformed modules in InstructorTestify.j ava	2
52	For Instructor client, in creation of a multiple choices question, when you enter the correct answer and then add a new choice, the answer disappears in the “Answer” box.	Add code to call question.setAnsw er whenever the questions are saved	saveQuestion module in InstructorTestify.j ava	3

53	For Instructor client, in creation of a programming question, if you do not add a file for that question and click “save”, a warning appears saying “you must enter a file name for this question” but then the program lets the user to save anyway.	Add if statement for save button and block the save action if there is a programming question without a file.	saveMenuItemActionPerformed module in InstructorTestify.java	1
54	For Instructor client, after a choice is deleted, it still shows in the saved test.	Add code to call MultipleChoice.removeChoice method	deleteChoiceButtonActionPerformed module in InstructorTestify.java	1
55	For Instructor client, in creation of a programming question, if you do not add a file for that question and click “save as”, a warning appears saying “you must enter a file name for this question” but then the program lets the user to save anyway	Add if statement for save as button and block the save action if there is a programming question without a file.	saveAsMenuItemActionPerformed module in InstructorTestify.java	1
56	For Instructor client, in creation of a programming question, if you do not add a file for that question and just go to	Add a check before every save button click and save as button click	saveMenuItemActionPerformed module and saveAsMenuItemActionPerformed module in InstructorTestify.java	1

	another question and save the test, the program lets you to save.		ava	
57	For Instructor client, in creation of a new question, the question does not appear in the questions list	Call resetQuestionComboBox method after new question is created	newSAActionPerformed, newMCActionPerformed and newProgActionPerformed modules in InstructorTestify.java	2
58	For Instructor client, in creation of a programming question, there is no button letting the user to choose a file for that question.	Add a button for user file choose	initComponents module in InstructorTestify.java	2
59	For Instructor client, in creation of a multiple choice question, if there is no choices, users are still able to use “save” function.	Add code to show warning about this	saveQuestion module in InstructorTestify.java	2
60	For Instructor client, in creation of a multiple choice question, if there is no choices, users are still able to use “save as” function.	Add code to show warning about this	saveQuestion module in InstructorTestify.java	2
61	For Instructor client, in creation	Call setAnswer method of	Instructor Testify.	S1

	of a multiple choice question, if you go to another question and come back, the “answer” box becomes empty.	question in save question method.		
62	For Instructor client, in creation of a short answer question, if you go to another question and come back, the “answer” box becomes empty.	Call setAnswer method of question in save question method.	Instructor Testify.	S1
63	For Instructor client, in creation of a programming question, if you go to another question and come back, the “answer” box becomes empty.	Call setAnswer method of question in save question method.	Instructor Testify.	S1
64	For Instructor client, if you create a new programming question, enter something in the “File” box, and then click “new” button under “Test” bar, the string you entered is still there in the “File” box.	Clear the “File” text box by setting the text content to an empty string.	New test in Instructor Testify.	S3
65	For Instructor client, on the properties panel,	Switch the doneButtonActionPerformed()	Properties Dialog.	S2

	after the “X” button is clicked, the panel doesn’t disappear.	method and cancelButtonActionPerformed() method.		
66	For Instructor client, on the properties panel, the “X” serves as “apply” instead of “cancel”.	Switch the doneButtonActionPerformed() method and cancelButtonActionPerformed() method.	Properties Dialog.	S2
67	For Instructor client, answers are not saved with “save” function.	Call setAnswer method of question in save question method.	Save answer method in Instructor Testify.	S1
68	For Instructor client, answers are not saved with “save as” function.	Call setAnswer method of question in save question method.	Save answer method in Instructor Testify.	S1
69	For Instructor client, when trying to edit an existing file, the points possible box becomes empty.	Set the text of possible points test area to the points of this question.	Load question in Instructor Testify.	S2
70	For Instructor client, 0 is a valid number for points possible.	Add an if statement to check if ptsPossStr equals “0”.	saveQuestion module in InstructorTestify.java	S2
71	For Student client, after the “Exit Test” button is click, it pops up a window to promote users to open a test.	Change the label of open button from “Exit Test” to “Open Test”.	initComponents module in StudentTestify.java	S1
72	For Student	Change the label	initComponents	S2

	client, no button is indicating that it is used to open a test.	of exit button from “Open Test” to “Exit Test”.	module in StudentTestify.java	
73	For Student client, “Previous” and “Next” button is shown before users opening a test.	Disable both “Previous” and “Next” buttons upon initial opening of a student client	initComponents module in StudentTestify.java	S2
74	For Student client, when try to open a test created by the instructor client, it shows “Please enter both a first and last name” error message even first and last name are all entered correctly.	Comment out nameError.setVisible(true) under the if statement	openActionPerformed module in StudentTestify.java	S3
75	For Student client, nothing is responding after the submit button is clicked.	Change all questionIndex to questionIndex - 1.	openActionPerformed module in StudentTestify.java	S1
76	For Student client, it cannot open a test with just only one question.	Change all questionIndex to questionIndex - 1.	multiple modules in StudentTestify.java	S1
77	For Student client, after a selection is made for multiple choice question, when “Next” or “Previous” button is clicked,	Exchange the code for incrementation with the code for decrementation.	NextActionPerformed and PreviousActionPerformed modules in StudentTestify.java.	S1

	exception is thrown.			
78	For Student client, after a test is opened, when there are only two questions, it jumps to the last question in the test.	Change all questionIndex to questionIndex - 1.	setQuestionData module in in StudentTestify.java	S2
79	For Instructor client, indices of some questions are missing.	Update the index in newSAActionPerformed, newMCActionPerformed, and newProgActionPerformed methods.	newSAActionPerformed, newMCActionPerformed, and newProgActionPerformed in InstructorTestify.java	S2
80	For Instructor client, after deleting a question, the index is still there in the index selection bar.	Add code to reset index option in function deleteMenuItemActionPerformed	deleteMenuItemActionPerformed module in InstructorTestify.java	S3
81	For student client, when input space into first name field, system does not find out the error	Add an if statement to check if first name equals space.	openActionPerformed module in StudentTestify.java	S2
82	For student client, when input space into last name field, system does not find out the error	Add an if statement to check if last name equals space.	openActionPerformed module in StudentTestify.java	S2
83	For student client, after submitting	change the parameter from	openActionPerformed module in	S3

	the test file, the system directly display the second question rather than the first question	questionIndex to 0 in setQuestionData function	StudentTestfy.java	
84	For student client, in the question screen, once click the previous button then next button, the page will become last page for submit	change the if statement into questionIndex==questions.size()-1	NextActionPerformed module in StudentTestfy.java	S3
85	For the student client, just input the first and not input last can still enter into exam	add one if statement to check whether last name text is empty	openActionPerformed module in StudentTestfy.java	S3
86	For student client, when finish the test and enter in the screen of Thank, all the "open test" button cannot work	add System.exit(0) to exitActionPerformed function	exitActionPerformed module in StudentTestfy.java	S3
87	For student client, when click "next button" in the last page, the system will crash	add if statement to check whether the current question is the last one	NextActionPerformed module in StudentTestfy.java	S1
88	For student client, in the second page, click the "previous" button and "next" button and "previous" button, the submit button will appear in the first page	change the if statement into questionIndex!=questions.size()-1	PreviousActionPerformed module in StudentTestfy.java	S1
89	For student client,	change the	setQuestionData	S2

	if the test file only have one short question, the system cannot open it and crash	questionIndex to questionIndex-1 in questions.get when questionIndex is less than questionsize-1 in the checking with shortanswer	module in StudentTestfy.java	
90	For student client, in the question page, once click “previous” then “next” then “previous”, the system cannot back to the next page	change the if statement into questionIndex!=questions.size()-1	PreviousActionPerformed module in StudentTestfy.java	S2
91	For student client, if the test file only have one programming question, the system cannot open it and crash	change the questionIndex to questionIndex-1 in questions.get when questionIndex is less than questionsize-1 in the checking with Programming	setQuestionData module in StudentTestfy.java	S3
92	For student client, if the test only has two questions, there is no submit button	change the if statement, which check whether should setText into Submit, into questions.size()==questionIndex+1	openActionPerformed module in StudentTestfy.java	S2
93	For student client, if the test file only have one multiple choice question, the system cannot open it and crash	change the questionIndex to questionIndex-1 in questions.get when	openActionPerformed and setQuestionData module in StudentTestfy.java	S2

		questionIndex is less than questionsize-1 in the checking with Multiplechoide	a	
94	For student client, if the test has more than three questions, after finish the last question, it cannot go next	change the if statement into questionIndex!=questions.size()-1	PreviousActionPerformed	S1
95	For student client, if the test just has two short answer, when the input the answer in the first question then click "next" button, the answer will appear in the text field of question two	Add a line "AnswerBox.setText("") in the beginning of NextActionPerformed	NextActionPerformed module in StduentTestfy.java	S3
96	For student client, if the test just has two multiple choices, when the input the answer in the first question then click "next" button, the answer will appear in the text field of question two	Add a line that set all RadioButton selected to false in the beginning of NextActionPerformed	NextActionPerformed module in StudentTestfy.java	S2
97	For student client, in whatever test file, the point always show 25	And a line to set the PointsPossible1 to relevant point in NextActionPerformed, Previous ActionPerformed	NextActionPerformed, Previous ActionPerformed and openActionPerformed module in StudentTestfy.java	S2

		and openActionPerformed		
98	For student client, if the test just has two programming choices, when the input the answer in the first question then click “next” button, the answer will appear in the text field of question two	Add a line that set codebox into “” in the beginning of NextActionPerformed	NextActionPerformed module in StudentTestfy.java	S3
99	For student client, if the test has 5 questions, the system just shows question one, two four, and the order is wrong	The if statement to check ((questionIndex - 1) % 3 == 0 && questionIndex < questions.size() - 2) should be remove	NextActionPerformed module in StudentTestfy.java	S1
100	For student client, if the test has more than 5 questions, the questions appear with wrong relevant kinds answer	Should add a line to remove the original answer in the beginning of setQuestionData	setQuestionData module in StudentTestfy.java	S1

WHITE BOX DEFECTS

Defect No	Defect Description	How to correct the defect	Module in which the defect is found	Severity (S1, S2 or S3)
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1	org.jdesktop.layout.* was not able to compile	add an external jar file to the library.	initComponents method in StudentTestify.java	S1
2	Each time a new choice is added to a Multiple Choice Question, the choice will appear twice.	remove one of ((MultipleChoice) question).addChoice(newChoice) statement.	addChoiceButtonActionPerformed in StudentTestify.java	S1
3	The question counter in next question is bugged so that some question will never appear	remove the if statement and simply add questionIndex++;	NextActionPerformed in StudentTestify.java	S1
4	The question counter in previous question is bugged so that some question will never appear	remove the if statement and simply add questionIndex--;	PreviousActionPerformed in StudentTestify.java	S1
5	ExitActionPerformed method is empty	uncomment System.exit(0)	ExitActionPerformed in StudentTestify.java	S2
6	jButton2 has never been used	remove jButton2	initComponents in InstructorFirstScreen.java	S4
7	timeFmt has never been used	remove timeFmt	constructor in PropDialog.java	S4
8	The answer of multiple choice on student client side is not saved.	call set answer of that question to save the answer.	Save answer method in StudentTestify.	S1
9	The arg String fileName is never used	Add code to get the correct process with input fileName	getProcess module in Compile.java	S3
10	getComments returns two copies of the	return comments instead of return	getComments module in	S2

	comment.	comments + “ “ + comments	Programming.java	
11	String OS is never used	Do not declare String OS in the first place	ProcessBuilder module in Compile.java	S3
12	In the format “h:mm a”, hour is thought to be a one-digit number while i is not necessarily the case	Add exception handler to handle the case when # of hours is actually two-digits	Time module in Time.java	S2
13	When calculating totalPoss in summary, fo every new question the method actually decreases the totalposs	change totalPoss -= poss; to totalPoss += poss;	SummaryDialog module in SummaryDialog.j ava	S1
14	When calculating points earned in summary, the total earned points is not calculated by the sum of all points	change totalEarned = earned; to totalEarned += earned;	SummaryDialog module in SummaryDialog.j ava	S1
15	When calculating pointsEarned/pointsPoss , the number put before “%” is calculated by pointsEarned/pointsPoss * 10 instead of * 100	change the number from 10 to 100	SummaryDialog module in SummaryDialog.j ava	S1
16	numOfCompiles is incremented when getNumOfCompiles is called	Delete the “++” in the code	getNumOfCompil es module in Programming.java	S2
17	Save as menu item is performed as save menu item.	Change the click listener of save as menu item to perform as the click listener of save menu item.	Save as menu item action of Grader Testify.	S1

18	Save menu item is performed as save as menu item.	Change the click listener of save menu item to perform as the click listener of save as menu item.	Save menu item action of Grader Testify.	S1
19	Key can be null while key is loaded.	Check if key is null before loading key.	Load key answer module of Grader Testify.	S1
20	Answer can be null while answer is loaded.	Check if answer is null before loading answer.	Load test answer module of Grader Testify.	S1
21	Question can be null while question is loaded.	Check if question is null before loading question.	Load question module of Grader Testify.	S1
22	All language will be shown as “C” language while a programming question is opened.	Get the language type from current programming question and set the language label to that language.	Load question module of Grader Testify.	S2
23	Auto grade menu item is enabled to be clicked before test or key is loaded, which may lead to unhandled exception is thrown.	Disable auto grade menu item at first and enable it after test and key are loaded correctly.	Auto grade menu item in Grader Testify.	S2
24	Open key menu item is enabled before any test is opened which may lead to exception being thrown while this item is clicked.	Disable open key menu item at first and enable it after test are loaded correctly.	Open key menu item in Grader Testify.	S2
25	The answer of the first question is not shown even if it is loaded correctly.	Change the condition of checking if current is greater than one to if current is	Load student answer module of Grader Testify.	S1

		greater or EQUAL to one.		
26	The key of the first question is not shown even if it is loaded correctly.	Change the condition of checking if current is greater than one to if current is greater or EQUAL to one.	Load key answer module of Grader Testify.	S1
27	Try to load test even the cancel button is clicked on the opening file dialog panel is pressed.	All action in the open student test method will only be performed after an approve option is received.	Open student test in Grader Testify.	S1
28	Try to load key even the cancel button is clicked on the opening file dialog panel is pressed.	All action in the open key method will only be performed after an approve option is received.	Open key in Grader Testify.	S1
29	In the loop of counting points for summary, the total points minus points in each question each time.	Change the total points to add points in each question.	Summary Dialog.	S1
30	In the loop of counting points for summary, the total earned points directly equals to earned points in each question each time.	Change the total earned points to add earned points in each question.	Summary Dialog.	S1
31	The result of dividing earned points from possible points is timed by 10 to get the percentage.	The result of dividing earned points from possible points is changed to time 100 to get the percentage.	Summary Dialog.	S2

32	For questions with index less than 0 and less than the number of questions in the test, they won't be save, which should be questions with index less than 0 or great than the number of question in the test.	Change the condition to <code>current < 0</code> or <code>current > test.length()</code> .	Save question in Grader Testify.	S3
33	<code>lastNameTextActionPerformed</code> method is empty	should check if the <code>lastName</code> is legal or not	<code>lastNameTextActionPerformed</code> in <code>StudentTestify.java</code>	S2
34	<code>firstNameTextActionPerformed</code> method is empty	should check if the first name is legal	<code>firstNameTextActionPerformed</code> in <code>StudentTestify.java</code>	S2
35	<code>MCAnswer2ActionPerformed</code> and <code>MCAnswer1ActionPerformed</code> is switched. They do each other's job	change the <code>questions.get(questionIndex).setAnswer(MCAnswer1.getText());</code> in <code>MCAnswer2ActionPerformed</code> to <code>questions.get(questionIndex).setAnswer(MCAnswer2.getText());</code> vice versa	<code>MCAnswer2ActionPerformed/MCAnswer1ActionPerformed</code>	S1
36	<code>addChoiceButtonMouseClicked</code> method is empty	should allow instructor to add choice when adding a multiple choice question	<code>addChoiceButtonMouseClicked</code> in <code>InstructorTestify.java</code>	S2
37	<code>prevQButtonMouseClicked</code> method is empty	should allow instructor to view the previous question when creating a new test	<code>prevQButtonMouseClicked</code> in <code>InstructorTestify.java</code>	S2

