White Box and Black Box Testing & Fixes

BLACK BOX

No	Defect Description	How to correct defect	Module	Severity
1	Every time you enter a multiple choice answer, it prints it twice	Remove one of the method calls to addChoice()	InstructorTestify	2
2	If you change the point value for one question, it will change for all the others	Initialize pointsPossTextField in loadAnswer to the question's points	InstructorTestify	2
3	Previous button goes to the next question.	Move the code from inside prevQ to nextQ	InstructorTestify	2
4	If you delete all the choices in multiple choice and create new ones, the old ones will reappear	Call question.removeChoice() when you click the delete choice button	InstructorTestify	3
5	You can create a question with no answer	Prompt user that answer cannot be null	InstructorTestify	1
6	After deleting a question, its number is not taken out of the drop down menu	Call resetQuestionComboBox() inside deleteActionPerformed	InstructorTestify	2
7	When cycling between questions it is possible for text boxes to be cleared	Make sure setAnswer(), setPrompt() is being called before cycling between questions	InstructorTestify	2
8	If you have an error in creating questions, it will delete the fields of previous questions (possibly extension of previous error)	Make sure saveQuestion() is called after changes to text fields have been made	InstructorTestify	1
9	Next button goes to previous question	Move the code from inside nextQ to prevQ	InstructorTestify	2

10	The answer box does not save when creating a test	Call setAnswer() after you call setPrompt() in saveQuestion() method	InstructorTestify	1
11	Program allows user to assign a negative point value	Check if points entered is negative or not and do not save if it is a negative number	InstructorTestify	2
12	Program does not allow instructor to assign decimal point value (only accepts integers), program raises an exception	Change ptsPossible to type double instead of float	InstructorTestify	2
13	Trying to hit next or previous when a non numeric value is entered into the point value raises an exception	Put point assignment code inside the try{} catch{} for numerical format inputs	InstructorTestify	2
14	Points for each question is never stored in the file (even after user presses save test).	Call setPtsPossible() for each questions	InstructorTestify	1
15	Trying to save a new test without entering questions causes an exception	Prompt user to enter prompt and answer if textfields are blank when save is called.	InstructorTestify	2
16	File name for creating programming question lets you type in any file type without prompting an error.	Check file for valid file type and prompt error if it is incorrect	InstructorTestify	3
17	Programming question file still shows in the other questions types	Set FileTextField to null so it clears previously entered file name	InstructorTestify	3
18	From instructor client, it lets you enter a blank answer as a multiple choice option without any error	Check if choice equals null, prompt the user to enter a valid choice	InstructorTestify	2
19	Making multiple choice question allows you to	Check question choiceList if choice has	InstructorTestify	2

	make a multiple choice answer that is already in the list.	already been entered and prompt user if it is invalid		
20	A multiple choice with only 1 option?	Check if choiceList is less than or equal to 1, if it is, prompt user with error to make more choices	InstructorTestify	1
21	Cancel button does not work on properties dialog.	Make the cancel button dispose of the PropDialog object.	PropDialog	2
22	You have to press apply twice on the properties settings	Remove propDialogue object so it is not being called twice	InstructorTestify	2
23	You have to press the x button twice on the properties settings	Remove propDialogue object so it is not being called twice	InstructorTestify	2
24	Instructor cannot permanently delete an existing choice in a multiple choice question (only display is updated, trying to add another choice will cause the deleted choice to show up again)	Call question.removeChoice() when you click the delete choice button	InstructorTestify	1
25	"Create Test" -> select existing test: save functions like save as, and save as functions like save.	Save button and save as button actionPerformed() are swapped, switch the function calls	InstructorTestify	2
26	The program will generate null pointer exception if a non numeric character is supplied for "Points possible".	Prompt user for inavlid points input	InstructorTestify	2

27	Clicking "new" when you have created a new test does not give you any prompt and just clears your current work and creates a new test.	When "new" is selected, prompt user if they really want to exit without saving.	InstructorTestify	2
28	When you load a test the last question shows as a blank space on the combo box	Change the index to load the last question when you edit a test	InstructorTestify	2
29	The program has no title so it shows up as blank on the taskbar	Add program name title to the JFrame	InstructorTestify	3
30	Edit test button incorrectly calls grade test	Modify "edit test" action listener to call InstructorTestifi.main("open")	InstructorFirstScreen	3
31	Create Test opens edit test.	Modify "create test" action listener to call InstructorTestifi.main()	InstructorFirstScreen	3
32	Grade test button incorrectly calls create test	Modify "grade test" action listener to call GraderTestify.main()	InstructorFirstScreen	3
33	Program assumes that bash is accessible in /bin/bash. This will not work in windows environment.	Check the running OS, and run bash using different path	Compile	2
34	Loading an invalid student test file generates null pointer exception	Put try catch block on loading tests	Student Testify	1
35	Opening a null file to take as a student generates a null pointer exception	In open action preformed checked if the file is null and returned if it was	Student Testify	1
36	To open a test to take on the student form you must click the exit test button.	Re-labeled buttons for open and exit	Student Testify	2

37	When student opens test, it does not start with question one.	Remove if statement that causes you to skip the first question	Student Testify	3
38	Question points on student client are not consistent with what the instructor marked initially, all of them say 25.	Point values hard coded at 25, set each to appropriate value	Student Testify	2
39	When first launching the student client, pressing next or previous causes an exception	Change next and previous buttons to be initially disabled	Student Testify	1
40	Edits to answers are not saved after saving to the file and reopening in the edit test form.	Save the answers to the file	Student Testify	2
41	In taking a test in the student client, clicking next will bring you to the next question, but then the next button is permanently replaced with the submit button and if you go to a previous question you cannot go to the next.	Changed the next button logic so that if it is not at the end it will say next instead of submit	Student Testify	1
42	Clicking the open test button after submitting a test does nothing	Specify the file to open	Student Testify	2
43	Student can't submit a test after completing it if the test has less than 5 questions	Removed conditionals restricting size	Student Testify	1
44	After the student signs in and enters info into first and last name fields… when the student presses next, the program does not advance to the next screen prompting the user to open a test file.	Disabled next and previous button prior to test being opened	Student Testify	3

45	The exit button in the student client does not exit the program when pressed.	In exit button action performed code un-commented the system.exit(0) call	Student Testify	2
46	The program allows the student to edit the short answer question prompt text.	In setQuestionData set questionBox.seteditable to false at the end of the function	Student Testify	2
47	The file is saved in the format lastname_firstname instead of the format firstname_lastname which is the format specified in project documents.	In saveTestObject() reverse the definitions of the first name and last name strings	Student Testify	3
48	The student is able to click the previous button and move to a different question on the first question.	Disable prev/next at beggining/end of test	Student Testify	2
49	The student submits the test and is not taken from the screen to exit the test.	Change of frame in submit button	Student Testify	2
50	Compile programming question from student client says file not found, ambiguous instructions on how to proceed.	In compile.java take out the extra / in /bin/bash	Compile	2
51	From student client, answering a question makes it the answer for all the other questions	Upon each next and previous call we load into the answer box and code box the answer that had been saved for that question	Student Testify	2
52	In student client, you need to press the "Exit Test" twice to load the test	remove the unnecessary openBool check	Student Testify	3
53	When taking a test from student client, sometimes	Question index are off by one, change it to start at	Student Testify	2

	the question prompts are mismatched	0 in the arrayList not at 1.		
54	Programming questions with a prompt create a short answer as well as a programming question for a student to answer when taking a test	Fixed prompts by correcting question index defect	Student Testify	2
55	If you click next till the end of a test with less than 5 questions and then try to click previous, it doesn't let you. The whole system breaks	Change if statement to be less than	Student Testify	1
56	The program does not signal the user when invalid user name information is entered.	Do null check for first and last name field and prompt user if null	Student Testify	2
57	You can enter an end time that is before the start time in the properties	Add a compare function to the Time.java class and ensure that start times are before end times.	PropDialog	2
58	The cancel button does nothing.	Make the cancel close the properties dialog box without saving changes.	PropDialog	3
59	Clicking apply brings up another properties dialog box.	Remove the line in the apply button that opens another PropDialog.	PropDialog	3
60	Grading summary sheet shows total points possible as negative number.	Change -= to += for points possible.	SummaryDialog	2
61	Percentage always says -0.0%	Change decrementing possible points to incrementing.	SummaryDialog	2
62	Total Points Earned shows 0 even though points	Called correct variable.	SummaryDialog	2

	earned are not 0.			
64	You can only grade a test if you open the key first and then the student's test	Disable the menu options until a key has been opened	Grader	2
65	The next and previous button in grade test are backwards	fixed by changing the questionindex++ to -- for previous and vise versa for next	Grader	3
66	You can open an instructor's test file as a file to grade.	Add flag to instructor created test and do not let grader open instructor created test as student answer.	Grader	2
67	Program language in grade test says JLabel instead of specified language	set label to disabled when not in use and to the language when it is a programming question	Grader	2
68	Student answer field does not get cleared when you go to a question without an answer	Clear the student answer field before inserting the students answer	Grader	2
69	If you type a non numeric point value, it doesn't let the user know and the system doesn't let you do anything until you change it back to a number	Check if value is nonnumeric and prompt user for valid input	Grader	2
70	System doesn't inform user test file is invalid if instructor tries to open an invalid file.	Create Dialogue Box to inform user of invalid file type	Grader	3
71	The student and key answers don't show up for the first question	Changed the if statement to current>0 rather than current>1	Grader	2
72	When you get to the first question, you can't use "previous" to go back to the next question, you have to	fixed by making previous actually go to the previous question	Grader	2

	manually go to a different question using the drop down.			
73	When you get to the last question, you can't use "next" to go back to the previous question, you have to manually go to a different question using the drop down.	fixed by making next actually go to the next question	Grader	2
74	System does not inform user if the test is currently valid	created a check to see if test was valid and informed the user if it wasn't	Grader	2
75	As you click through the questions to grade, the text in the "key" box duplicates into the "student answer" box. This will then mess up the autograde since both boxes match.	partly fixed by making key and the student answer go in the correct boxes. also fixed by removing a line of code from the saveanswer function	Grader	2
76	When you set a comment for a programming question then you go to another question and back again, it repeats the comment again with a space in the middle	made get comments return comments rather than comments + " " + comments;	programming.java	2
77	After pressing Edit test and selecting the Open Student Exam on Test menu, clicking the close button or the cancel button on the dialog generates null pointer exception	Check for the result to come back cancel and do nothing if it is canceled.	Grader	2
78	Clicking open key then clicking cancel generates an exception	check to see if the user clicked cancel if so then return	Grader	2
79	When you first open a test	Switched the key and	Grader	2

	to grade, it puts all the student answers under the "key" box.	test parts of loadstudentanswer/loadk eyanswer to be test and key respectively		
80	Edit Test -> Exit menu does not do anything	added code to the exit button to end the program when the button is clicked.	Grader	2
81	Edit Test -> Save, Auto grade multiple choice and Save as menus, if clicked, will generate null pointer exception	Fixed by disabling the menu options until you open a key/exam	Grader	2
82	Loading an invalid student test file generates null pointer exception	added some checks for null pointers and prints out an error when one is found	Grader	2
83	Clicking the show summary button, without first loading the test key, generates null pointer exception	Fixed by disabling the summary button until you open a key/exam	Grader	2

WHITE BOX

No	Defect Description	How to correct defect	Module	Severity
1	In addChoiceButton action event, it is calling addChoice() twice in a row.	Remove one of the method calls to addChoice()	InstructorTest ify	2
2	SaveQuestion() is not being called before adding a MC,short answer, or programming question so the first question will not	Call saveQuestion() before calling function to create a new question	InstructorTest ify	1

	save.		
3	setPtsPossible() is being called unnecessarily outside the if statements so it will assign invalid points and throw an error	remove places where setPtsPossible() is being called	InstructorTestify	2
4	If test.getQuestions() is equal to 50 questions, it wont add any more questions.	Delete the if statement checking this	InstructorTestify	3
5	New test disables fileLabel instead of fileTextField	Change code to disable the textfield instead of the label	InstructorTestify	
6	getPointsEarned is being decremented upon being compiled	remove getPointsEarned -1 and just make it say getPointsEarned.	Compile	
7	Functions for MC choice 1 and two were reversed	Switched them back to the proper setting	Student Testify	2
8	In next button a line was added to skip by more than one	Removed line	Student testify	2
9	In previous button a line was added to skip by more than one	Removed line	Student testify	2
10	Only every other compile is successful	Removed if statement that prevents every other compile	Student testify	2
11	Answers for Mc and programming questions show to the student in the students answer box	Set student answerBox to answer variable not test answer.	Student Testify	1
12	Short answers save the answer+ the current prompt being displayed	Remove the code that appends prompt to answerTextField	Student Testify	2

13	Every third question is being skipped in student client when previous or next buttons are called	Removed if statement checking if (questionIndex -1 % 3 == 0) and contents within statement	Student Testify	1
14	There is no way to set the is valid variable	create a function to set the valid variable	Test.java	2
15	There was no way to tell whether test was a key or a students exam	created functions for a new boolean instructor that tell whether the exam is the students or instructors last	Test.java	2
16	Message dialog showed up twice when the test was the incorrect length.	deleted the second message dialog	Grader	2
17	There is no label to tell you if the programming question compiles or not	Create a label to tell you if the code compiles or not	Grader	3
18	Autograde multiple choice clears the comment box for programming questions	removed the line to load the question from autograde	Grader	3
19	Clicking the properties under the file menu in Instructor client causes the properties dialog to open twice.	Remove one of the PropDialog objects being created.	IntructorTestify	3