Test Cases

Black-Box Test Cases

These test cases are defined based on the available documentation and execution of the program. The code was not inspected.

#	Test case (very brief description)	Preconditions (any required setup)	Test steps (steps executed during testing)	Expectation	Observation ("pass" or failure description)
1	Category Test	No	Creating a temp set of classes to mock the functionality of the software. Providing an input within the test to select the category and then checking the variable topic from the Controller class to verify that the methods worked as expected.	The variable should match the category name.	Pass
2	Difficulty Test	Category needs to be selected.	Extension of the Category test. Providing an input within the test to select the difficulty and then checking the variable difficulty from the Controller class to verify that the methods worked as expected.	The variable should match the difficulty level.	Pass
3	50-50 lifeline	Difficulty needs to be selected.	A built-in question is provided. Then a condition is used which verifies the number of options nullified after using the lifeline.	The number of options should be halved.	Pass
4	Remove one wrong option lifeline	Difficulty needs to be selected.	A built-in question is provided. Then a condition is used which verifies the number of options nullified after using the lifeline.	One option should be null.	Pass
5	Hint lifeline	Difficulty needs to be selected.	A built-in question with a hint is provided. Then a condition is used which verifies the hint is returned after using the lifeline.	Successful matching of hint variable and hint returned.	Pass
6	Question Database	Difficulty needs to be selected.	The database is called and then the number of questions loaded are verified along with the details of the first question.	The number of questions loaded and detailed of first question must match.	Pass

White-Box Test Cases

These additional test cases were defined during inspection of the code.

#	Test case (very brief description)	Preconditions (any required setup)	Test steps (steps executed during testing)	Expectation	Observation ("pass" or failure description)
1	Invalid Input for Topic Selection	No	An invalid input is used.	The method should default to General Knowledge.	Fail
2	Invalid Input for Difficulty Selection	Category needs to be selected.	An invalid input is used.	The method should default to Easy.	Fail
3	Using a life line twice	Difficulty needs to be selected.	A set of questions is loaded and a life line is used on a question. Then it is verified that if the lifeline is used again an exception should be thrown.	The method should throw an exception.	Fail
4	Null question	Difficulty needs to be selected.	A null question is passed to the askQuestion method.	The method should throw an exception.	Pass
5	Null options	Difficulty needs to be selected.	A question with null options is passed to the askQuestion method.	The method should throw an exception.	Fail