

Student: Eduardo de Oliveira Castro
Blazer ID: edc
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Assignment 07

Problem)

Develop an unit testing framework in java that receives a given test class, recognise the methods that refers to unit tests and runs it. If the method runs properly nothing needs to be done but in case of error(like Exception) it needs to be printed in the console.

Solution)

First of all I check if the class provided as parameter is a real class, if it isn't(= null) then I throw an Exception. If the code doesn't stop at the Exception part then I assign the class to a local variable, which will be used by the algorithm. All the public methods from the class are stored in an array of Method's, this is possible with the `getMethods()` method from the `Class` class.

The actual work happens when the algorithm iterates though this array of methods, there are some methods for checking if the method is valid(if the name is correct, if there is no parameters and if the return type is void) and then the method is invoked by a new instance of the provided Class. This block of code is inside of a try/catch condition, if an exception is received then the algorithm prints it without stopping the execution.

For testing the class I created a `TestCases` class and an `UtfTest` class, which is the main, and run it providing the `TestCases` for `Utf` class to see what happens. Everything works as expected.

Conclusion, problems and possible improvements)

It was pretty interesting to have a very little idea about how an unit testing framework works, the assignment also made it easier to understand how reflect library works and how useful it is.

As only one class was needed I didn't have to worry a lot about patterns, just thought about great namings, not much responsibility for each method, encapsulation, etc. Maybe a great improvement would be to concentrate all the method checking in only one method(that is responsible for calling the other three). Probably other languages have similar mechanisms for working with reflection.

The only problem that I have is that actually I don't know how to compile the code using the terminal but I tested it using Eclipse and works fine.