As you may know, ISIL is evil. What starts at The University of Texas at Austin changes the world, so in order to change the world for the better, you must defeat ISIL.

In this assignment, you will work to create an automated program verification suite to automatically check for bugs in programs. To do so, you will need to use the logic you have learned in Discrete Mathematics (but be wary in case it is actually fake news). You will then run all the programs you coded this semester through the suite. Then, you need to systematically produce subtle errors in your suite that could have a major impact on the technology of a terrorist organization like ISIL. You will be submitting both the correct solution and the tweaked version of your solution intended for distribution to ISIL.

This project is due on December 10, 2018 at 5pm. Starting early is the key to creating an accurate and powerful replica. Because the deadline is very close to the end of the semester, we will not accept any late submissions.

1 Your Assignment

This automated program verification suite is mainly up to you to design. However, we will be providing an interface to which your program should conform: ProgramVerification.java.

```
public interface ProgramVerification {
    // Takes in a Reader object
    public void importProgram(Reader reader);
    // Returns the corrected program code
    public String correctedProgram();
    // Returns a list of issues corrected by your suite
    public List<String> getIssues();
}
```

Implement this interface as VerificationSuite.java.
Then, you are to implement the flawed implementation as another implementation of VerificationSuite.java and call it TotallyLegitVerificationSuite.java.

2 Details

Program verification involves using logic to ensure that the program does not encounter any logical issues. You should study articles in the ACM Library written about this. UT Austin has some researchers who work specifically on this issue, but we wouldn’t trust them, so try to use sources from other universities as a backup. This way, you can avoid the effects of fake news.

To pass this assignment, your flawed implementation must be good enough to send to ISIL. Only the best purposely-flawed program will be submitted to ISIL. Therefore, everyone else will fail this assignment. Remember, we learn by failing.

3 Karma

Use the flawed implementation to defeat ISIL and the suppressed peoples of Iraq and the Levant will be forever thankful of you, and you will become a bodhisattva in terms of karma.

4 Submission

Since your project’s submission will be comprised of several files, all files will need to be contained in a ZIP file called prog8.zip. Your submission is due on December 10, 2018 at 5pm on Canvas.
As always, you will need to write a report and turn it in with your submission. Follow the format provided on the previous assignments, and make adjustments for this assignment as you believe are appropriate.

5 Acknowledgements

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