19AIE112: Elements of Computing Part 2

EndSem Project – Compiler I

Name: **Roll No.:**

Objective:

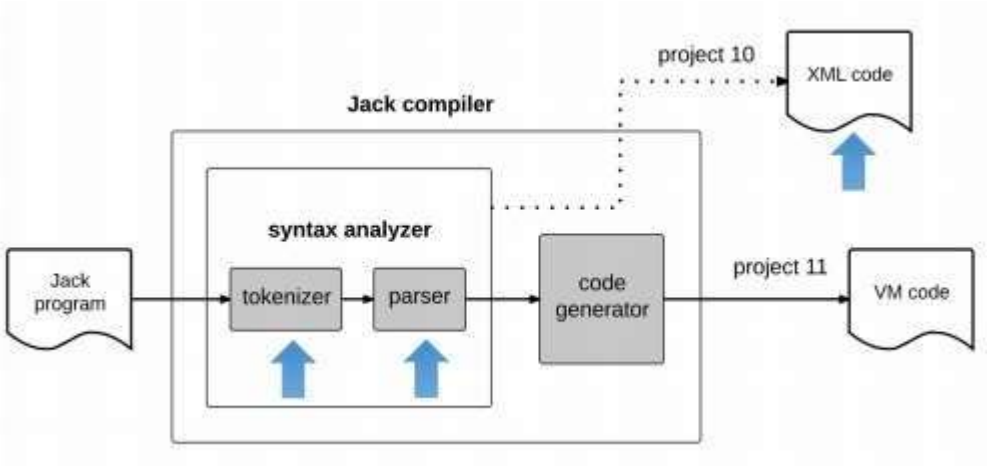
For the EndSem project - build a Syntax Analyzer that parses Jack programs according to the Jack grammar, producing an XML file that renders the program's structure using marked-up text. Build a Basic Analyzer that handles everything.

Guidelines:

1. Submit source code files and the output XML files individually (**5 marks** for Submission)
2. Submit a **Project Report Document** containing the following details – (**11 marks**) Document should be prepared separately by each student and should not be discussed with anyone. Plagiarism checks will be done for the Project Report.
    a. Brief explanation of classes and functions used in your code
    b. Class diagram explaining how the classes interact with each other
    c. Explain in detail about your contribution to the project (minimum half-page)
    d. Write about the insights which you learned in this course (half-page)
    e. Mention the command to invoke your Syntax Analyzer
3. End Sem Viva – **14 marks**

Instructions:

19AIE112: Elements of Computing Part 2



- Chapter 10 includes a proposed, language-independent syntax analyzer API, which can serve as your implementation's blueprint.
- Implementing the syntax analyzer in two stages. First, write and test the Tokenizer module. Next, write and test the Compilation Engine module, which implements the parser described in the chapter

21AIE112: Elements of Computing Part 2

Test Programs

ExpressionLessSquare
Square
Array Test

Resources

All the files necessary for this project are available in nand2tetris/projects/10 on your computer.

Note: The three source Jack files comprising the Square Dance application are identical to those stored inthe projects/09/Square directory. For completeness, an identical copy of these files is also available in the projects/10/Square directory.