



Bilkent University

Department of Computer Engineering

# CS 315 Programming Languages

Designing a Graph Definition and Querying Language

## Challenges of Project Part II

**Langage Name: SAPL**

**Section: 01    Group Number: 13**

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Challenging with lexer and parser is not full of fun but it was interesting experience for ourselves. Writing a lex code within our tokens and outputting our language's grammar in first part was hard at the beginning of the project but after some time passes, we have started to handle it. In project part one, writing report about a "brand-new" language, creating a tutorial was difficult because of selecting new standards of a language.

To continue with, implementing data structures to our algorithm was challenged us, too. In project part two, fixing lexer in order to implement our parser was nearly our starting point. The most challenging part was fixing our grammar to LL(1) in order to avoid ambiguity and infinite recursions. Furthermore, addressing tokens to the grammar and re-building grammars because of solving "syntax errors" of sample outputs were really challenging, too.

Hence, re-building grammar with errors and outputting the errornous lines' message in order to give information to users is really fun. Dealing with -bison extension in order to solve parser errors were challenging because some errors from terminal were not really specify the real content. Also, we have dealed with outputting the errornous lines' numbers although we were used "yylineno", there were some errors because of not defining something in parsers.

To sum up, projects were interesting to see and deal with creating new language and outputting brand-new samples.