CS335: Milestone 1

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Ayush Tharwani(170201)
Md. Saquib Hussain(170385)
Saketh Maddamsetty(170612)

1 Tools used

The parser built in this milestone is a parser for Java version 8 programs. We used ANTLR4 to describe the productions used to generate the parsing code in the language Python3.

We used Python pydot to generate the dot file to be used for constructing the AST. We then used graphviz package for Python3 to visualize the AST from the dot file.

To get antlr4, we need to run the command:
$sudo\ apt\ install\ antlr4$

To get antlr4 package for python3, we run:
$pip3\ install\ antlr4 - python3 - runtime$

To get python3 packages for graphviz and pydot, we run the commands $pip3\ install\ graphviz$ and $pip3\ install\ pydot$ respectively.

References :
https://www.antlr.org/
https://pypi.org/project/pydot/
https://github.com/antlr/codebuff/blob/master/grammars/org/antlr

2 The Code

We need to move to the milestone directory. To build the parser, we need to run the bash script:

$bash\ make.sh$

In order to run the parser for an input in the tests directory, we run

$bash\ run.sh\ inputfile\ outputfile\ [-h]\ -v$

$inputfile$ is the name of the input java program present in the directory $tests$ and not $tests/inputfile$.
$outputfile$ is the name of the output file. After running the parser, the output will be saved as out/DOT/$outputfile$.dot and out/PNG/$outputfile$.png.

Here, the options -h and -v are optional. We use -h to help the user with instructions and -v to get an explanation for the AST construction.

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