Tutorial 6
AST Generation from ANTLR

Download the ASTGenExercise.zip code, unzip it to find out 4 folders "cau1", "cau2", "cau3" and "cau4". For each folder, go to folder src and try to run it by typing "python run.py gen". Typing "python run.py test ASTGenSuite" to see all the testcases failed.

Question 1.

a. Open cau1/src/main/mc/parser/MC.g4 to see the grammar and cau1/src/test/ASTGenSuite.py to see the testcases. Modify cau1/src/main/mc/astgen/Count.py to count the number of leaf nodes in the parse tree.

b. Submit Count.py

For other questions, where X is from 2 to 5,

a. Open cauX/src/main/mc/parser/MC.g4 to see the grammar, cauX/src/main/mc/utils/AST.py to see the data structure of AST and cauX/src/test/ASTGenSuite.py to see the testcases. Modify cauX/src/main/mc/astgen/CauXASTGeneration.py to generate the AST from the parse tree.

b. Submit CauXASTGeneration.py