Assignment 6

Top-Down Translators

Due May 28, Friday, 2021

1. Consider the following grammar

   $S \rightarrow L \,.\, R$
   $L \rightarrow B\ Ls$
   $Ls \rightarrow B\ Ls \mid \varepsilon$
   $R \rightarrow B\ Rs$
   $Rs \rightarrow B\ Rs \mid \varepsilon$
   $B \rightarrow \mathbf{0} \mid \mathbf{1}$

   that represents the set of binary numbers. For example, the binary number 101.101 denotes the digital number 5.625.

   (a) Give an attribute grammar that computes the corresponding digital number value from the binary number representation.
   (b) Translate this attribute grammar into a top-down translator.
   (c) Use ANTLR to implement this attribute grammar

To turn in this assignment, upload a pdf file hw6.pdf that contains the solutions for (a) and (b), and the package file that contains the solution for (c) to the eCourse site.