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CS13B1040

COMPILIERS Assignment 1: Report
Interpreting a stack in COOL

The class Stack was implemented in a similar fashion to the predefined list in the cool examples directory.

The changes made in the “List” class were mainly, Initializing the list with a “$”, if it is empty. This is to avoid the unnecessary aborts that would have been called from the class “Stack”.
Also, our stack consists of String data types, rather than the predefined Integer one.

Subclasses Push and Pop were defined, to carry out the specific functions. However, the pop could not modify the list and return the top value at the same time, so a simple Stack.top() function was used.

The actual interpretation was a simple iterative function, checking for the predefined commands (which can be considered as Tokens), such as 'x', 'd', 's', and 'e'.

The class A2I was used for addition purposes, where the two topmost elements after '+' were popped and added as integers.

The main while loop (outermost loop) would only work till we don't encounter an 'x'. After which, the loop is gracefully exited, rather than aborting abnormally.

The only time an abort is called is when we are trying to convert a symbol other than [“0”-”9”] into an integer.