

The change I made was to <assign> and <print>
<assign> can now take string values and store them in variables
And <print> can take those variables as arguments

11.5: <p-arg> -> ID

13.5 <assign> -> ID "=" STRING

Static Semantics

11.5 ID.id = <p-arg>.id

The dynamic semantics for these new changes are as such

$\text{densem}(\text{"print"}\ ID, (\Theta, i, p)) = (\Theta, i, \text{append}(p, \Theta(ID)))$

$\text{densem}(\text{"get"}\ ID, (\Theta, i, p)) = (\Theta', i', p)$

Where

$(x, i') = \text{get}(\text{clean}(i))$

$\Theta'(n) = \text{if } n = ID \text{ then } x \text{ else } \Theta(n)$

//we do get instead of getInt to say we are just storing a typeless variable

I decided to implement a symbol table and I ran the subprogram for adding to the symbol table within the parsing part of the compiler. I would like to rework my code so that adding to the symbol table is instead done during the lexing.

I also decided to terminate on any syntax error, since a lack of proper formatting might have affected any subsequent calculation of other expressions and statements.

I could not implement any loops, as it would have been too difficult to implement a way to retain the previous tokens for the <expr> and <stmt_list> parts of the loop. I think a modification to the function I used to backtrack to a previous token might have been useful for implementation of a while loop.