Wubbalubbadubdub

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Wubbalubbadubdub is a new programming language based on the famous cartoon series, Rick and Morty.

Introduction

We are designing a parser to check whether a program in this language is correct or not and if it is correct, convert it to equivalent C code which can be compiled using gcc compiler. Wubbalubbadubdub relies on a number of existing technologies, particularly the Python Parsec library. We are planning to build our parser in Python using Parsec, which allows users to combine parsers via monads.

Working

Program written in Wubbalubbadubdub is taken as input and basic lexical analysis is performed based on our predefined vocabulary and tokens. After this step, abstract syntax tree is formed and parsing is performed, if at any step there is some invalid code, the program throws an exception. We plan to implement recursive descent parser for the language. Given a grammar for our language, we can define parsers for each variable in the grammar and thus recursively parse the entire language. After this the code is converted to C language.

Example Syntax:

Wubbalubbadubdub code	Equivalent C code

`>>> x squanch 10`
`>>> show me what you got x`
`10`
	Int main(){
	  Int x = 10;
	  printf(“%d”, x);
	  return 0;
	}

`>>> x squanch "Hello"`
`>>> show me what you got x`
`Hello`
	Int main(){
	  string x = “Hello”;
	  printf(“%s”, x);
	  return 0;
	}

Progress till now

We have identified the requirements, and suitable library to do the project on. We have worked on vocabulary and tokens and have decided syntax for our language. We will be giving limited functionalities and data-type support in the language. We have started initial build on parser and lexical analysis.