

CScript

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CScript is ...

- An educational tool for learning programming in C
- A *mostly* specification compliant implementation of C in JavaScript
- An interesting project in compiler/interpreter design

Why?

Learning to program online:

- tryruby.org
- codecademy.com
- Nothing for learning C interactively

I need to teach high school students a C based language.

Available options:

- Deal with platform differences
- Learn an IDE first
- Build an interactive tool

Implementing C: The Toolbox

- Parser generators
 - CFG vs. PEG
 - Jison vs PEG.js
- Continuations
 - Continuation Passing Style
 - Compiling with continuations
 - CESK machine
- Compiler vs. Interpreter

Context Free Grammars

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Parsing Expression Grammars

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PEG Continued

Continuations

Compiler vs. Interpreter

Paradigm shift

- C is imperative
- JavaScript is Object-oriented, Imperative, Functional

The Future

- Finishing the parser
- Building the interpreter/compiler
- Fill in the missing pieces

Contributing

- CScript is open source and all code is available at [GitHub.com/dfeltey/CScript](https://github.com/dfeltey/CScript)
- I'm very open to suggestions/opinions/contributions
- I hope that CScript could become a valuable learning/teaching tool

References