

# minCParser built with JavaScript (Harmony)

## Notes

- I opted to include "EOF" as a valid file (empty files are allowed)
- Since it's built with ES6, there is a `build` process
- Please try to use a UTF8 supported terminal if possible

## Directories/Files

```
├─ README.md
├─ gulpfile.js
├─ minCLexer
│   ├── grammar.js
│   ├── input_files
│   │   └── cs4318_5331_test_inputs
│   ├── minCLexer.js
│   ├── minCLexerDriver.js
│   ├── test
│   │   ├── minCLexerInputTest.js
│   │   └── minCLexerTest.js
│   ├── test.c
│   ├── utils.js
│   └── validate-tokens.js
├─ minCParser
│   ├── README.md
│   ├── dist
│   │   ├── ParserConstants.js
│   │   ├── minCParser.js
│   │   ├── symbol-table.js
│   │   └── tree.js
│   ├── img
│   │   └── tree.png
│   ├── minCParserDriver.js
│   ├── src
│   │   ├── ParserConstants.js
│   │   ├── minCParser.json
│   │   ├── minCParser.js
│   │   ├── symbol-table.js
│   │   └── tree.js
│   └── test
│       ├── astTest.js
│       ├── input_files
│       ├── minCParserTest.js
│       ├── npm-debug.log
│       └── symbolTableTest.js
└─ package.json
```

- 
- minCParser/test/ is for unit tests
- minCParser/src/ contains the actual file before it's transpiled
- minCParser/dist/ contains files that browsers (nowadays) can render

## Usage

- run `npm run init` in the project root directory
- use `node minCParserDriver.js filename` to run a file

## Examples

```
sangs ~/.minC/minCParser master X
> node minCParserDriver.js test0.mC
int main(int argc, string argv) {
    int a;
    int b;
    void foo[200];
}
```

Symbol	Type	Scope
main	FUNCDECL int	global
argc	int	main
argv	string	main
a	int	main
b	int	main
fao	ARRAY_DECL void	main

```

PROGRAM
  DECL_LIST
  FUNDDECL
  - TYPESPECIFIER int (1,8)
  - ID main (1,4)
  - FORMAL_DECL_LIST
  - FORMAL_DECL
  - TYPESPECIFIER int (1,8)
  - ID argc (1,13)
  - FORMAL_DECL
  - TYPESPECIFIER string (1,19)
  - ID argv (1,28)
  - FINDECL
  - LOCALDECLLIST
  - VARDECL
  - - TYPESPECIFIER int (2,4)
  - ID b (2,8)
  - VARDECL
  - TYPESPECIFIER int (3,4)
  - ID b (3,8)
  - ARRAY_DECL
  - TYPESPECIFIER void (4,4)
  - ID foo (4,8)
  - INTCOST 200 (4,13)
  - STATEMENTLIST EMPTY_STATEMENT (1,32)

```

```
sangm ~/minC/minCParser master x
```