6 FLEX

Friday, February 13, 2026 3:26 PM

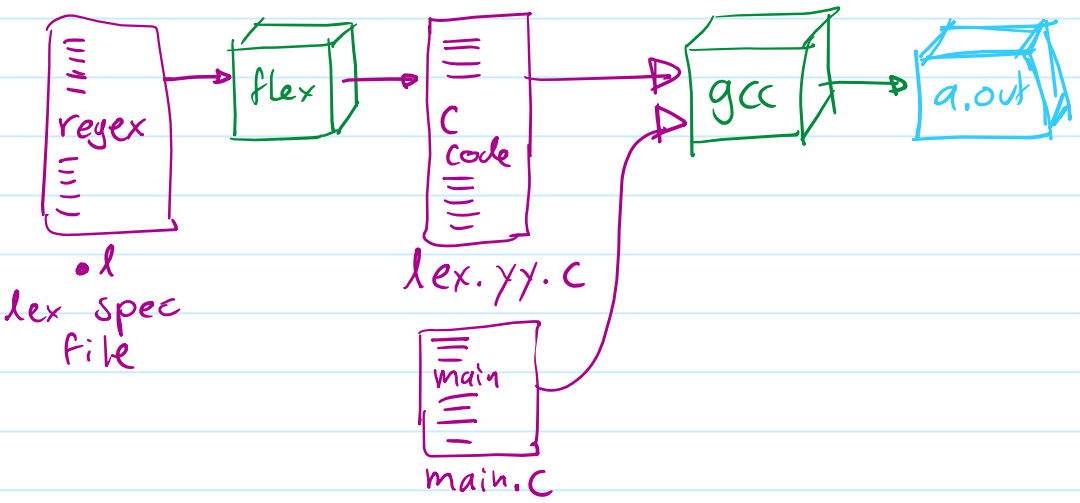
RegEx → NFA → DFA → Code.

FLEX - A lexical Analyser Generator

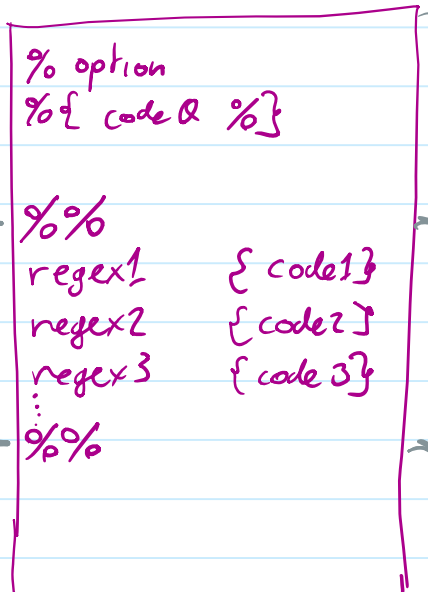
`60 Lex by Eric Schmidt for AT&T, UNIX

`70 flex by Mike Lesk & Vern Parson for B.S.D.

- uses POSIX standard
- Flex is a generator.



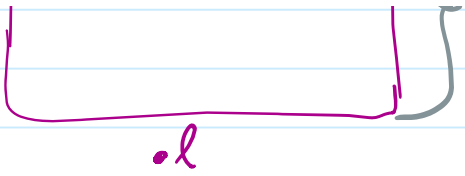
- THE FLEX SPECIFICATION FILE



- flex directives
- options
- code %{ %}

- regex + code

- code that will be copy-pasted to the output file.



to the output file.

- THE CODE GENERATED BY FLEX

-variables

yytext .- the last "string" matched by a regex, n.t.c.a.
yyleng .- the lenght of yytext
yylval .- a value attached to yytext
yyin .- the input file

-functions

yylex().- the lexical analyser implements the automata
yywrap() .- called when input is exhausted
yyinput() .- reads one character from the input

- FLEX WORKFLOW

```
$ flex spec.l          → lex.yy.c
$ gcc -lfl lex.yy.c main.c → a.out
$ ./a.out.
```

- FLEX TIE BREAKERS

Suppose:

flex

1.- [0-9]+
2.- [0-9]+ "." [0-9]+

Input

123.27abc

1
2

- flex will prefer string #2 because it's longer

Suppose

1.- (A|a)pple(s?)
2.- [A-Za-z]+

1
Apple53
2

- flex will prefer string #1 because it is first in the spec file.

Suppose

1.- [A-Za-z]+
2.- (A|a)pple(s?)

- flex issues a warning!!