

6 FLEX

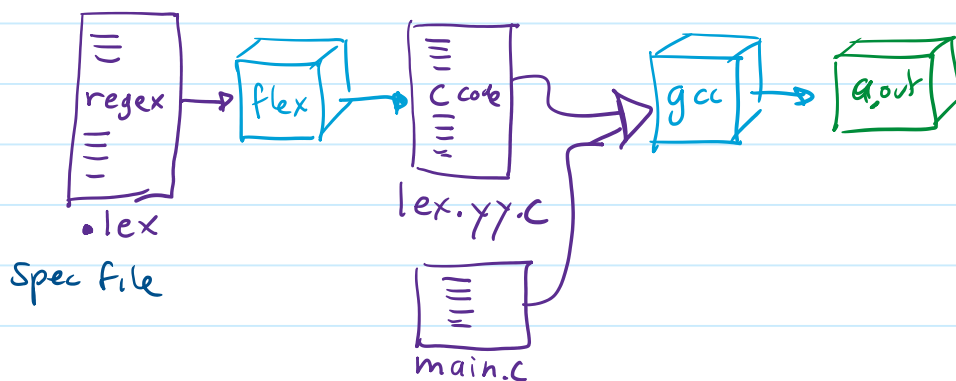
Friday, September 13, 2024 12:13 PM

Reg Ex → Automata → Code.

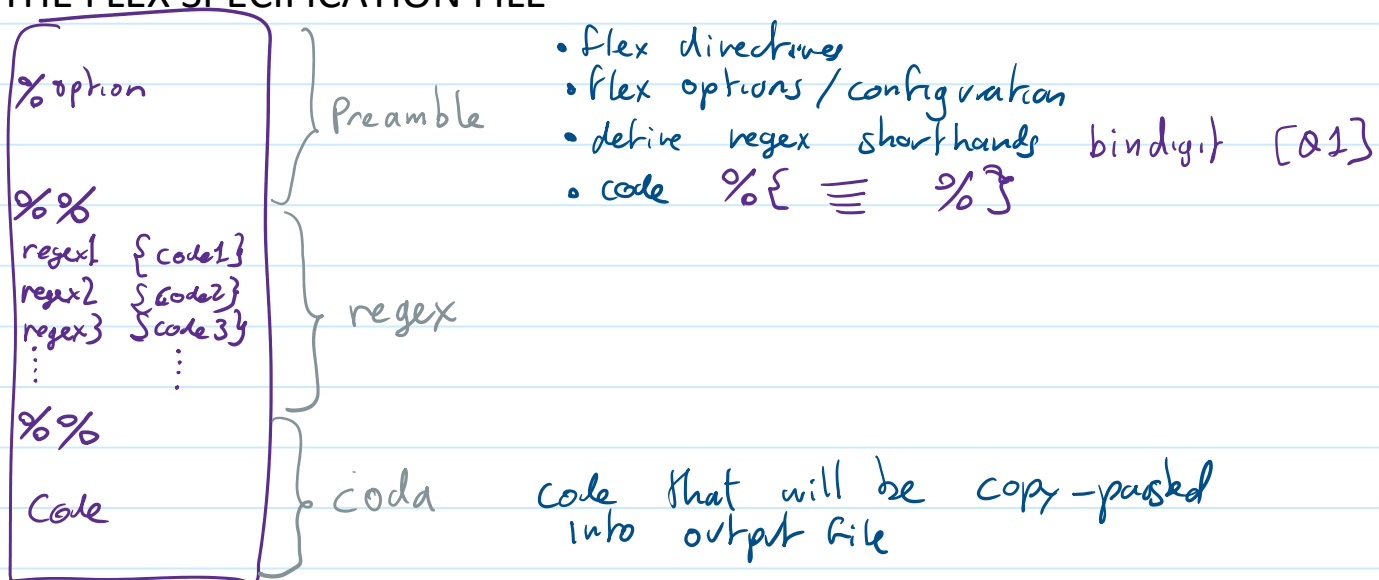
FLEX:- A lexical analyser generator.

70 by Mike Lesk & Vern Paxson for B.S.D.
based on **Lex** by Eric Schmidt for AT&T UNIX

- uses POSIX standard.
- Flex is a "generator"



• THE FLEX SPECIFICATION FILE



• THE CODE GENERATED BY FLEX:

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- Variables

- $yytext$:- ntca, the last string matched
 - $yylen$:- the length of $yytext$
 - $yyval$:- 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:

- $\$ flex\ spec_file \rightarrow lex.yy.c$
 - $\$ gcc -lfl lex.yy.c *.c \rightarrow a.out$
 - $\$./a.out.$

- FLEX TIE-BREAKERS:

- Suppose

- 1. $[0-9]^+$
 - 2. $[0-9]^+ \cdot [0-9]^+$

- $\overset{1}{\text{integer}}$
 $\boxed{123.27}abc.$
 $\underbrace{\hspace{1.5cm}}_{\text{decimal } \otimes}$
2

- flex prefers the longest string

- Suppose:

- 1. $(w|w)hale(s?)$
 - 2. $[a-zA-Z]^+$

- $\overset{1}{\text{whale}}$
 $\boxed{\text{whale}}$
2

- flex prefers the first RegEx in the file

—EOF—