C++ example

or comparison.

$$a < b > c;$$

Parameter ↓ (above b)

template ↑ (below first a)

var ↑ (below c ;)

```
a*b;  // multiplying a & b
      // declaring a var b
      // Pointer to type a.
```

Subsets of CFGs that are unambiguous.

LALR, LR, SLR, GLR . . . .
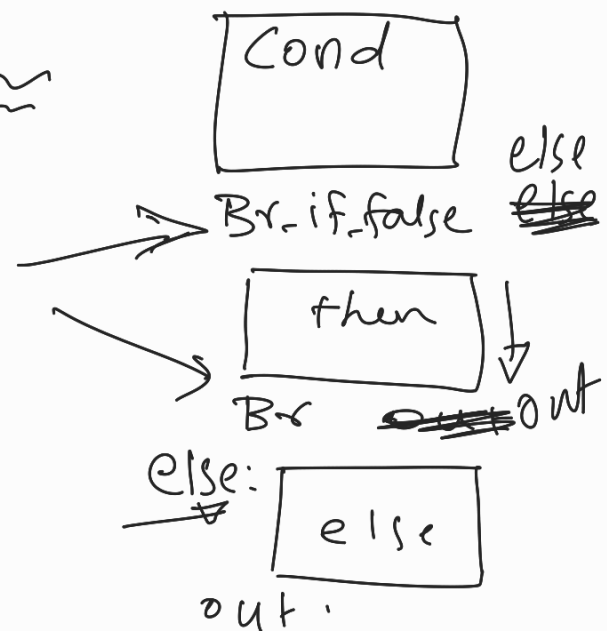
GNU Bison LALR(1)

"Parser generators" accepting a grammar.

[PEG] ← generates parsers. But it doesn't detect ambiguities

Code generation - Backpatching

if
cond then else

≈

forward jumps

Cond → Br. if. false ~~else~~

then → Br ~~out~~ out

else: → else

out.

Generate cond
0/p br_if_false X
Generate then
Calculate current offset and store into X

0/p br y
Generate else
current offset into y.

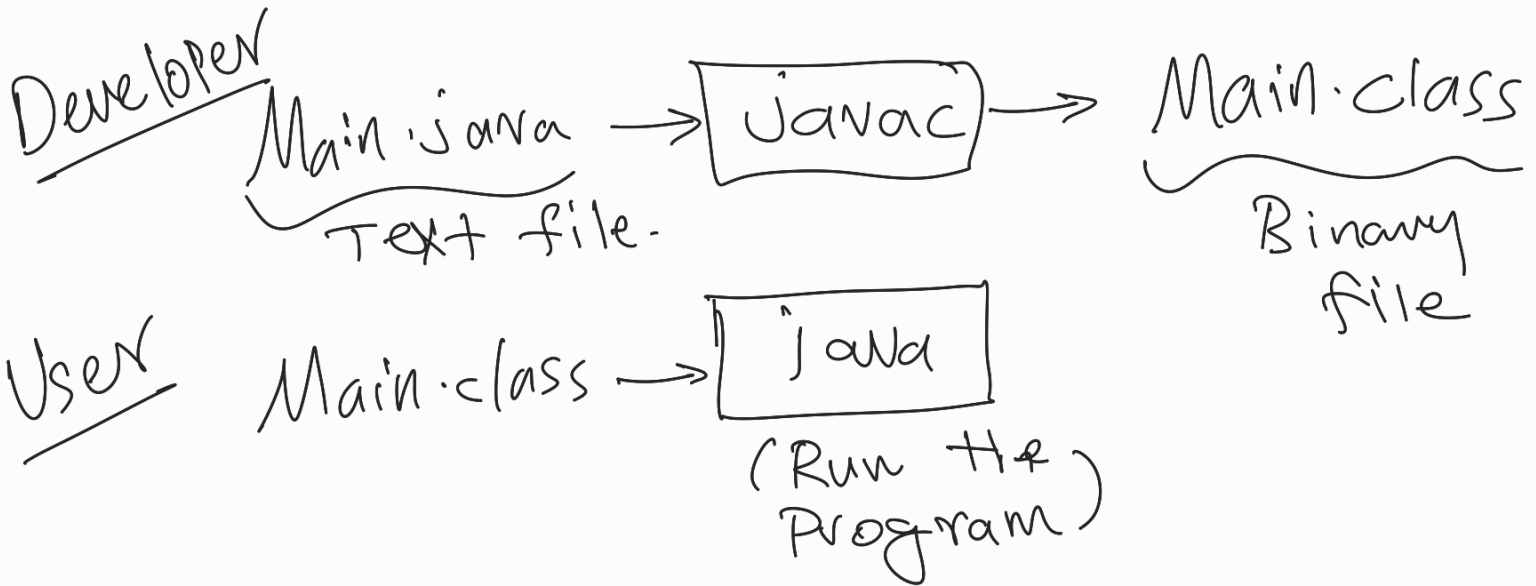
while ((cond) {

    body

}

begin:

$\uparrow$

| cond |

br_if_false out

| body |

br begin

out
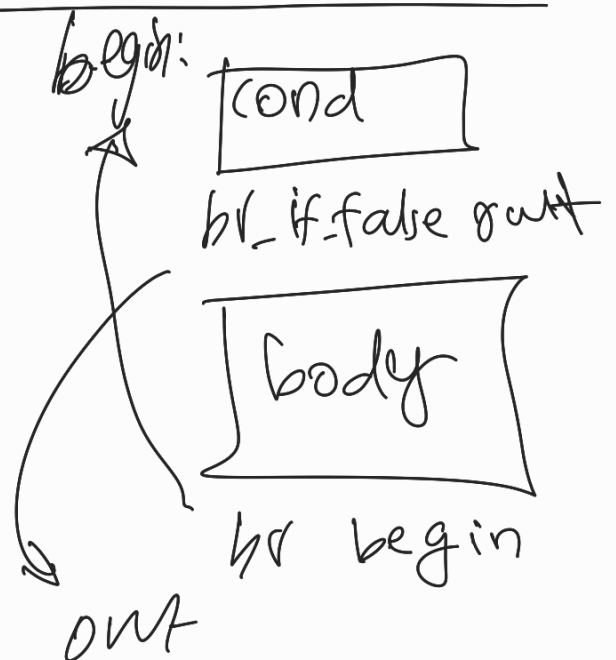
101_2 5

Sean Parent
"C++ Seasoning"

PyPy

Compiler + VM architecture

Developer Main.java → [Javac] → Main.class
         Text file.   Binary file

User   Main.class → [Java]
                    (Run the Program)

Naive Fibonacci implementation

30s challenge

What is the largest n for which you can output fib(n)

		Python	
Os1	(27)	38	201x slower
Golang*	28	40	326 x p.

{ Pranav, Jaidev, Aniket, Ninnit }