



# Compilers

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## Lexical Analysis Examples

- FORTRAN rule: Whitespace is insignificant
- `VAR1` is the same as `VA R1`

DO 5 I = 1,25

DO 5 I = 1.25

1. The goal is to partition the string. This is implemented by reading left-to-right, recognizing one token at a time
2. “Lookahead” may be required to decide where one token ends and the next token begins

```
if (i == j)
    Z = 0;
else
    Z = 1;
```

PL/I keywords are not reserved

IF ELSE THEN THEN = ELSE; ELSE ELSE = THEN

DECLARE (ARG1, . . . , ARGN)

Is DECLARE is a keyword or an array reference?

- C++ template syntax:

Foo<Bar>

- C++ stream syntax:

cin >> var;



- The goal of lexical analysis is to
  - Partition the input string into lexemes
  - Identify the token of each lexeme
- Left-to-right scan => lookahead sometimes required