

3 The PROGROTRON-20.3 Language

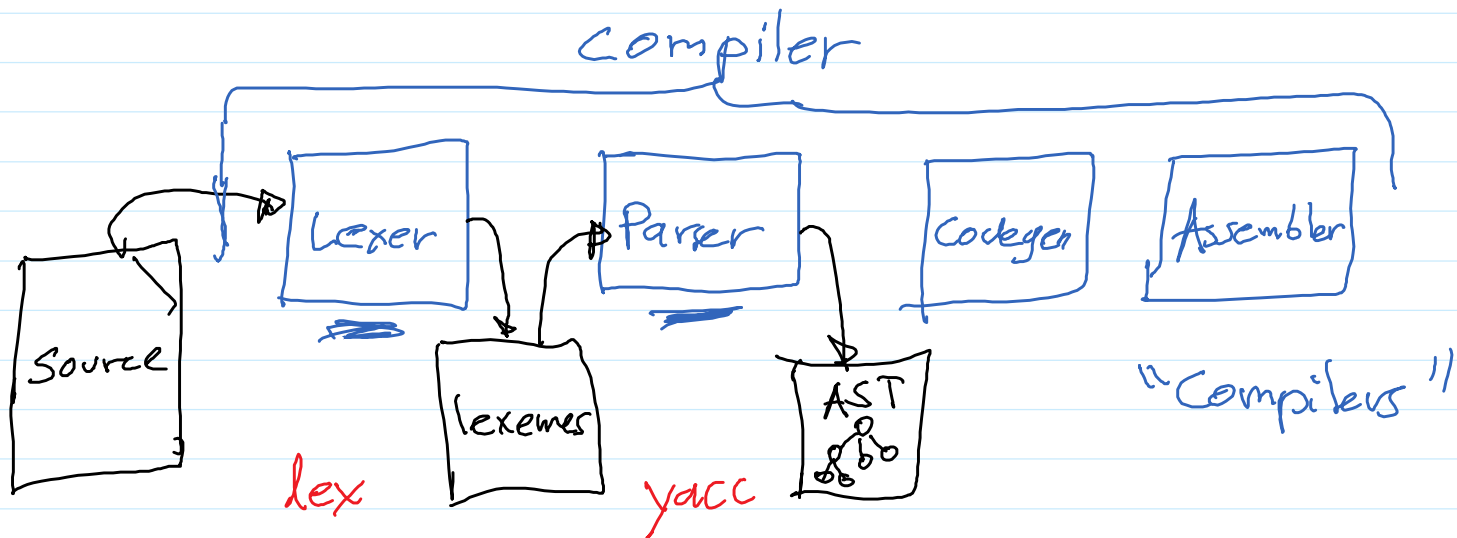
Saturday, September 5, 2020

12:37 AM

OBJECTIVES:

- A guide for the first part of this class.
- Introduction to the PROGROTRON-20.3 Programming Language.

THE FIRST PART OF CS-3500



latter {
• LISP
• Prolog

THE PROGROTRON-20.3 PROGRAMMING LANGUAGE

- dynamically typed
- imperative
- C, C++, Java.
- if, loops, assignments, functions

```
%  
% This is a line comment
```

```
%  
FUNC main ( )  
  PRINT( "Hello" ) !  
  x := 2 + 2 !  
  y := 3 * 12 / 7.5 !  
  p := ( x > 0 ) AND ~( y < 30 ) !  
  PRINT ( x * 100 ) !  
END.
```

+ * - / MOD

:= AND OR

not.

```
% If statements and relations
```

```
FUNC FizzBuzz( n )  
  IF n MOD 3 = 0 :  
    IF n MOD 5 # 0 :  
      PRINT ( "Fizz" ) !  
    ELSE  
      PRINT ( "FizzBuzz" ) !  
    ;  
  ELSE  
    IF n MOD 5 = 0 :  
      PRINT ( "Buzz" ) !  
    ;  
  ;  
END.
```

= equals
~~#~~ not equals

```
% Fibonacci
```

```
FUNC fibo ( n )  
  x := 1 !  
  y := 2 !  
  c := 3 !  
  WHILE c < n :  
    x := x + y !  
    y := x - y !  
    c := c + 1 !  
  ;  
END RETURN x ;
```

} body

% Greatest Common Denominator

FUNC gcd (a , b)

WHILE a > b :

 a := a - b !

ELIF a < b :

 b := b - a !

;

% TRUE:: a = b

END RETURN a .

→ while c1 -
body 1
elif c2
body 2
elif c3
body 3
↓

% Whitespace is not relevant

FUNC hello ()

PRINT ("Hello" & "World!") ! END.

concat.

% Newlines are not relevant

FUNC isRelation (s)

res := false !

IF (s = "<") OR (s = ">") OR

(s = "=") OR (s = "#") :

res := true !

;

END RETURN res .