

## CSSE 304 Day 13

We will look at the solutions of the Lexical Address Exercises. This is a place for notes on that.

Syntactic extension: A mechanism for adding new syntax to a programming language.

Things that programming languages allow us to define (you may want to write them in two columns:

Macros in MIPS assembly language, such as `la` (load address), VAX-MACRO.

`#define` in C (defines macros, not procedures)

Core forms

The Scheme syntax expansion process

`define-syntax` in Scheme

i. General form:

```
(define-syntax <identifier>
  (syntax-rules ( {<keyword>}* )
    { [pattern template] }* ))
```

ii. Example:

```
(define-syntax my-let
  (syntax-rules ()
    [(_ ((x v) ...) e1 e2 ...)
     ((lambda (x ...) e1 e2 ...)
      v ...)]))
```

We will do live-coding of several `define-syntax` examples. Use the back of the page if you want to write those down. It may be better to follow along and do these on your computer. My code will be online later.