"***Assembly language*** is a low-level language for programming computers. It implements a symbolic representation of the numeric machine codes needed to program a particular CPU. Assembly is used for direct hardware manipulation, access to specialized processor instructions, and to address critical performance issues, i.e. real-time execution. High-level programming languages such as C or C++, have a strong abstraction from CPU details."

Addressing Modes

Motorola Training Notes 2-1 through 2-21

Before completing the modulo addressing exercise on 2-21, review p. 141 Section 3.2 on assembler directives.

Data Stack Exercise 2-17:

```
move #$0,r7
move x0,x:(r7)+
move x:-(r7),x0
```

Modulo Addressing Exercise 2-21:

```
move #samples,r0  ;initialize r0 to point to samples
move #coeff,r4    ;initialize r4 to point to coefficients
move #npts-1,m0   ;initialize m0 for modulo addressing
move #npts-1,m4   ;initialize m4 for modulo addressing
move x:(r0)+,x0   ;move sample into x0, postinc
move y:(r4)+,y0   ;move sample into y0, postinc
```

