ECE 3120
Computer Systems
Assembly Programming

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Prev:
- Assembler Directives
- Instruction format

Today:
- Software development issues
Software Development Process

Problem definition: Identify what should be done.

- Develop the algorithm.
  
  - Algorithm is the overall plan for solving the problem at hand.
  
  - An algorithm is often expressed in the following format:
    
    - Step 1
    - ...
    - Step 2
    - ...

  - Another way to express overall plan is to use flowchart.

Programming. Convert the algorithm or flowchart into programs.

Program testing

Program maintenance
Symbols of Flowchart

Figure 2.1 Flowchart symbols used in this book
Additional Universal Transfer Instruction

The **SEX** instruction sign-extend an 8-bit number into a 16-bit number so that it can be used in 16-bit signed operations. For example,

```
SEX A,X
```

You can sign extend A,B,CCR to D,X,Y,SP
Next...

- Arithmetic Programming
- Read Chapter 2.5