Flow Diagrams

Last updated 6/13/23

These slides introduce Flow Diagrams

Flow Diagrams

- Development process

need

| Requirements Specification | → | Flow Diagram or Pseudo Code | → | Code Development | → | Tool Chain |

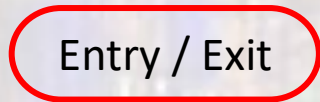| Test | ← | Executable Code |

Production
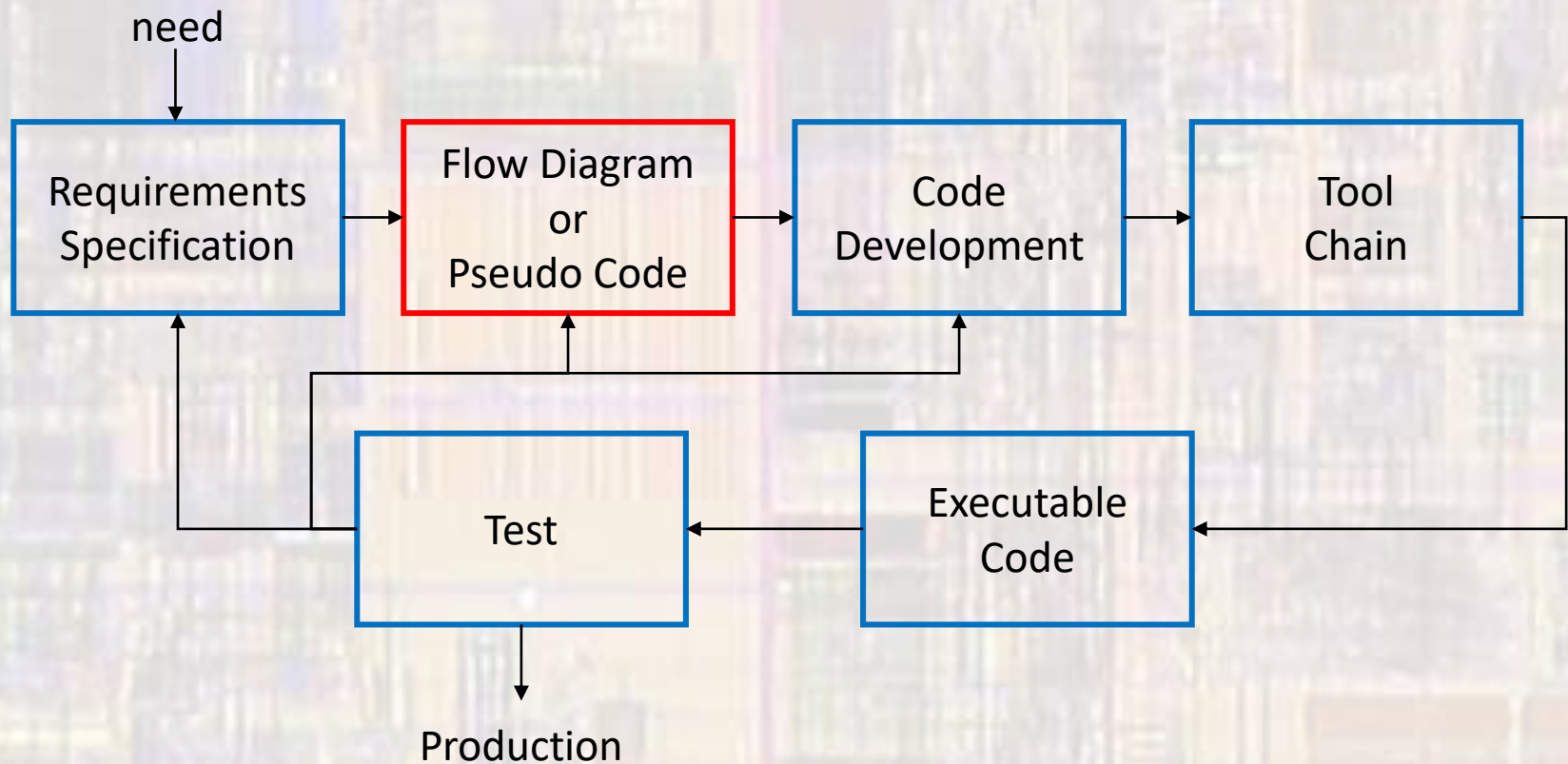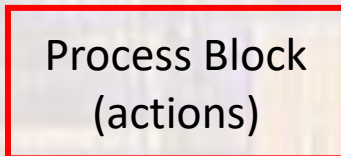
Flow Diagrams

- Program Flow
  - Hierarchical system design
  - Up/Down sub-system design
  - Focus on general structure – not too specific
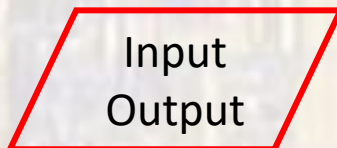
Flow Diagrams

- ## Basic flow diagram blocks

Entry / Exit   Entry/Exit of this section of the flow diagram

Process Block (actions)   Actions for the program to take
                                                      Internal to the processor

Decision Block   Flow direction options
                                                 Y/N or T/F decisions

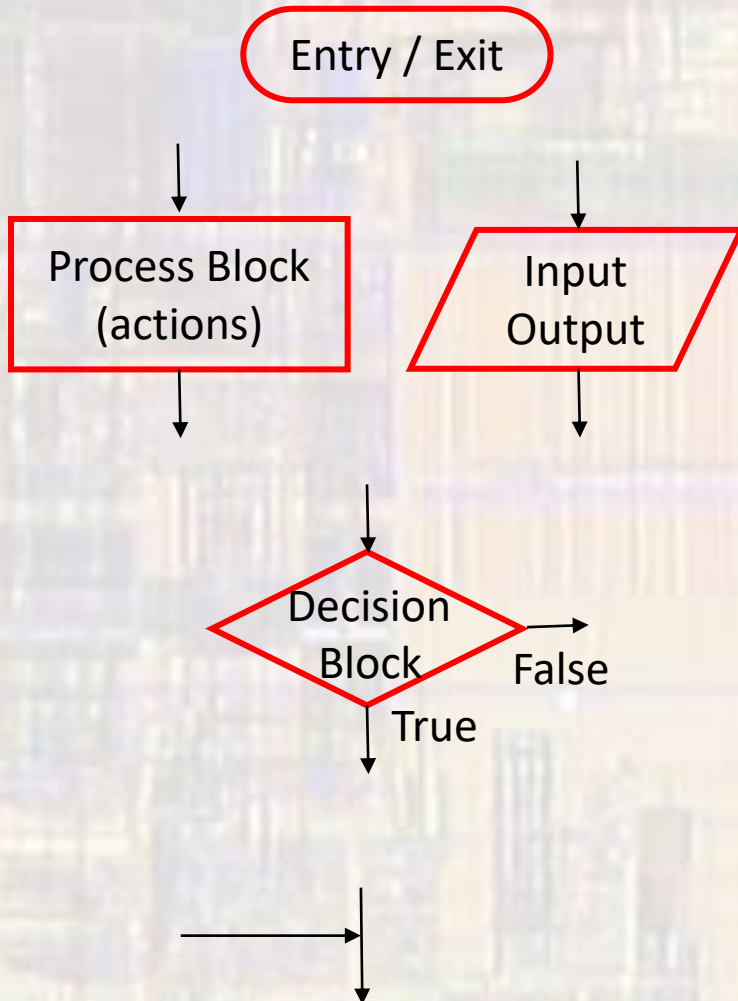Input Output   Actions associated with external entities
                                                 - outputs to screen or wires
                                                 - inputs from keyboard or wires
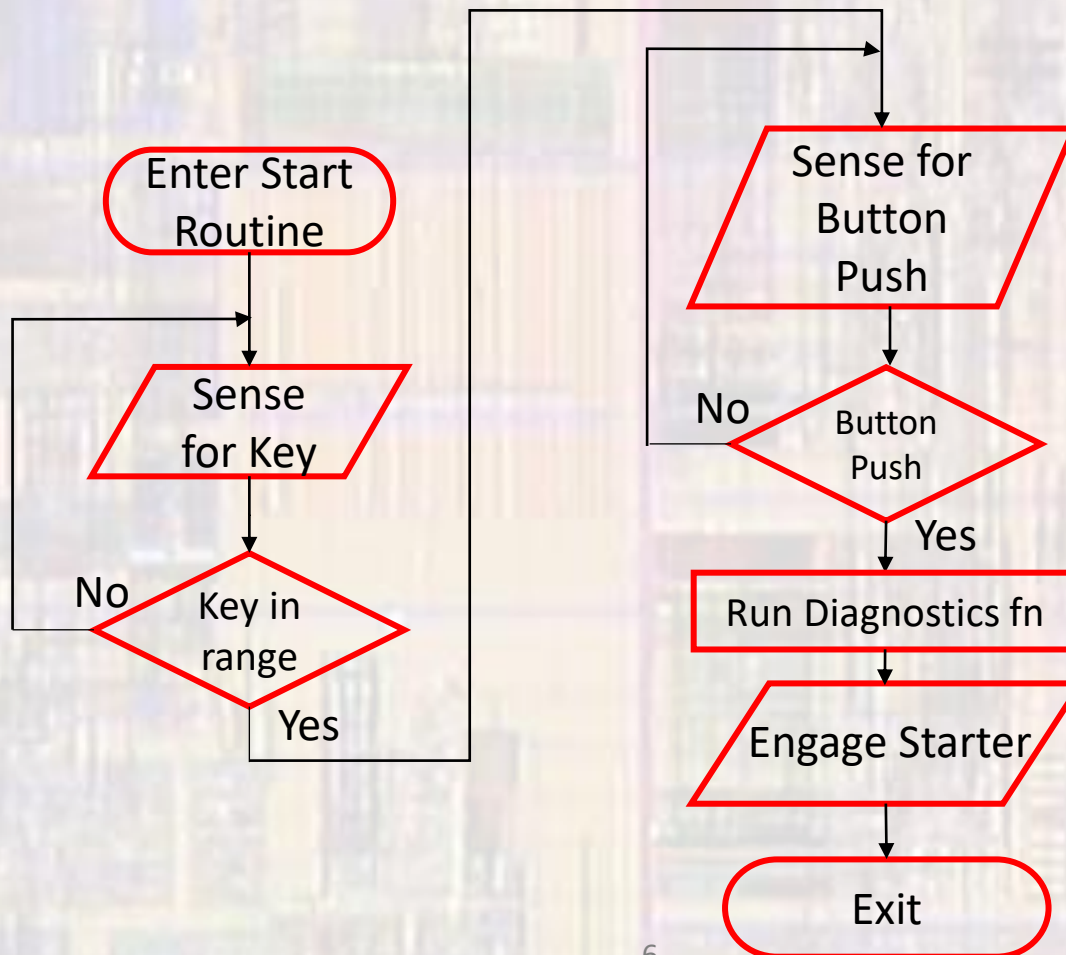
Flow Diagrams

- Basic flow diagram rules

Entry / Exit

Entry/Exit blocks have only 1 out/in path

Process Block
(actions)

Input
Output

Action blocks have 1 input and 1 output

Decision
Block
False
True

Decision Blocks have 1 input and 2 outputs

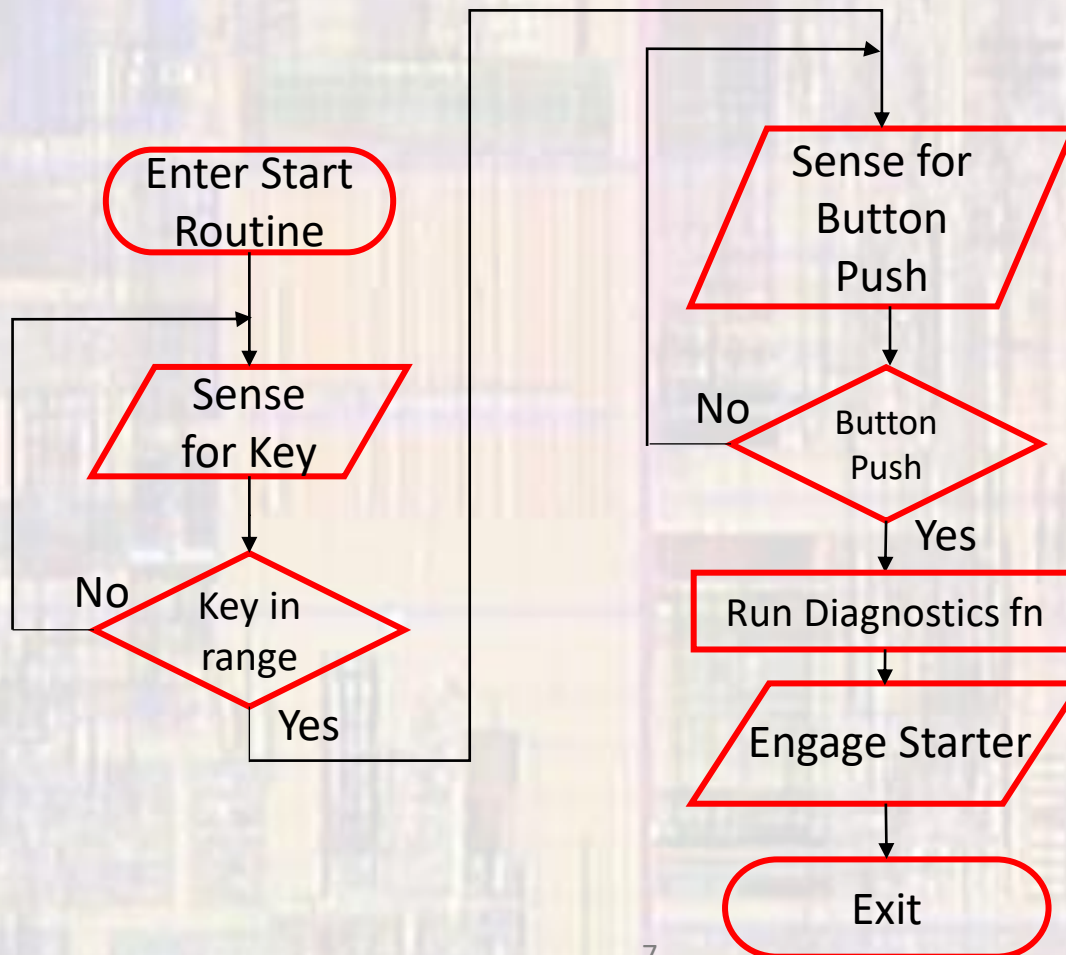Path connections are made with arrows

Flow Diagrams

- Program Flow – Keyless Start
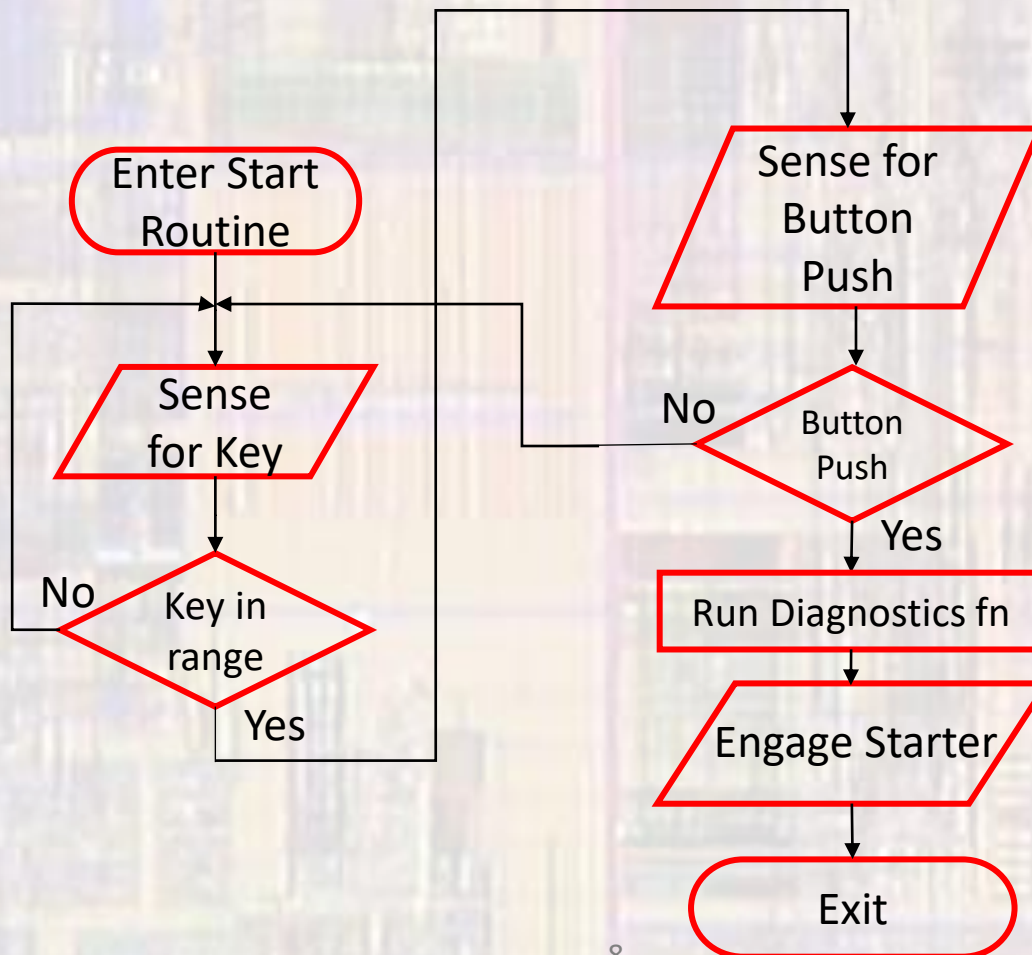
Flow Diagrams

- Program Flow – Keyless Start

What's wrong?

Flow Diagrams

- Program Flow – Keyless Start

Flow Diagrams

- Pseudo Code – Keyless Start

In an infinite loop:

If Key present
    If button pushed
      run diagnostics fn
        engage starter
    end
end

We will not be
using pseudo code
in this class