

Microcontroller:

Microprocessor + Memory + I/O
+ ADC
+ Communication means
SPI, I²C, CAN,
UART, LAN
+ Timer
+ MMU ?

Microprocessor	Applications	1%
microcontroller	"	99%

✓

need to add

power supply + mechanical enclosure
+ software

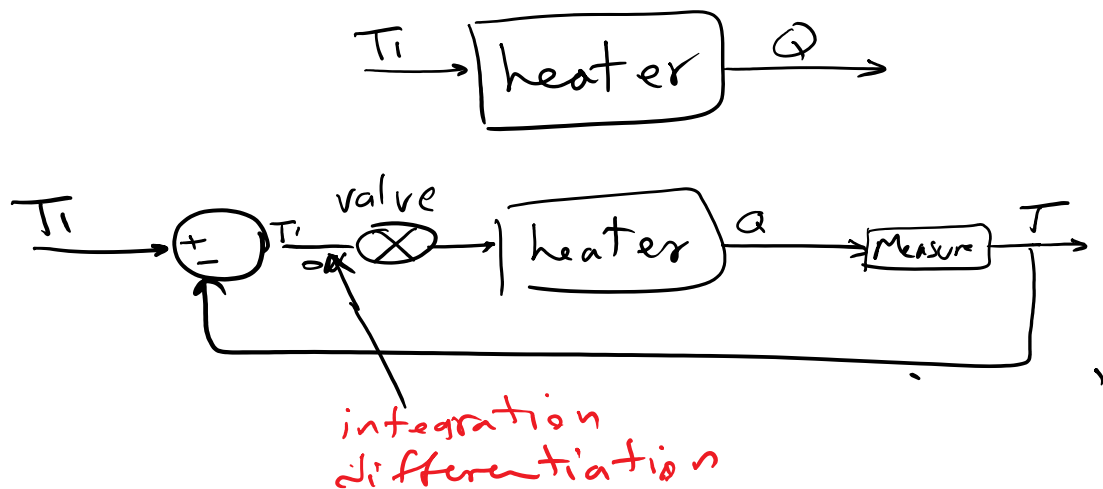
↑
requirements
design

development cycle
Testing

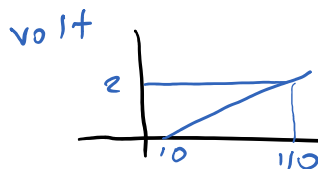
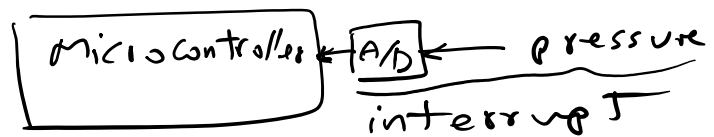
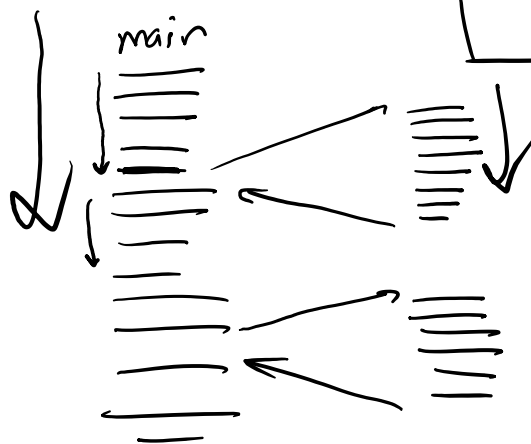
Introduction

Monday, September 25, 2017

12:05 PM



Concurrency



$$P = 10 + \frac{V_{out}}{0.02}$$

$$P = 10 + 50 \times V_{sensor}$$

$$Z = \frac{1}{g} (P - P_0)$$

$$Z = \frac{1000}{9.8} (P - 101.3)$$

A/D

10 bit

1023

$+V_{ref}$
:
 $-V_{ref}$

$$\text{Step} = \frac{V_{ref}^+ - V_{ref}^-}{2^{10}} = \frac{5V}{1024} = 4.9 \text{ mV}$$