```
#include "mbed.h"
InterruptIn  button (PTD n);
DigitalOut   led (PTD m);
DigitalOut  flash(PTD p);
void flip() {
        led = !led; }
int main() {
    button.rise(&flip);
    while (1) {
        flash = !flash;
        wait(0.25); }
}
```

ISR

C as Implemented in
Assembly Language

programmer's world → Land of chocolate

Processor's world ?

Memory Requirements

Code
read only static data
writable ″   ″
heap
stack

what goes where ?

Can the information change?
yes   no

How long the data need to exist?
— statically allocated?

- Automatically allocated?
- Dynamically allocated?

program memory use

variable ——— volatile

non volatile

A variable may change from

different sources

$$A = B + C;$$
$$D = A + E;$$