

C Preprocessor

Lightning Talk

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You already know ...

```
#include "file.h"  
#define LED_PIN 13
```

What about ...

```
#if !defined(__AVR_ATtiny84__)  
#error This code is for an ATtiny84  
#endif
```

Different pin configs per board

```
#if defined(__AVR_ATmega328P__)  
const uint8_t LED_PIN = 13;  
#elif defined(__AVR_ATtiny84__)  
const uint8_t LED_PIN = 7;  
#else  
const uint8_t LED_PIN = 3;  
#endif
```

Different configs per revision

```
#define REVISION 3  
  
. . .  
#if REVISION == 1  
const uint8_t LED_PIN = 13;  
#elif REVISION == 2  
const uint8_t LED_PIN = 7;  
#else  
#error What revision is this?  
#endif
```

Include/Exclude debug code

```
#define DEBUG 1  
  
. . .  
  
#if DEBUG  
    Serial.println(F("Got here"));  
#endif
```

Conditional inclusion of features

```
#define USE_ETHERNET 0
#if USE_ETHERNET
#include <Ethernet.h>
#endif

. . .
#if USE_ETHERNET
    //start Ethernet
    Ethernet.begin(mac);
    server.begin();
#endif
```

Thank You

Backup slides

Directives list

#include
#define
#undef
#if
#ifdef
#elif
#else
#endif
#pragma
#error
#warning
#line
#ident
#sccs

.../arduino-1.0.5/

hardware/tools/avr/avr/include/avr/io.h

has a pretty good list of processor definitions

```
#if defined (__AVR_AT94K__)
```

```
#elif defined (__AVR_AT43USB320__)
```

```
#elif defined (__AVR_AT43USB355__)
```

```
#elif defined (__AVR_AT76C711__)
```

```
#elif defined (__AVR_AT86RF401__)
```

```
#elif defined (__AVR_AT90PWM1__)
```

```
#elif defined (__AVR_AT90PWM2__)
```

```
#elif defined (__AVR_AT90PWM2B__)
```

...

Gotcha

Arduino INO files are processed by the IDE into a CPP file to be compiled. Sometimes, this processing messes up.

A suggested workaround:

```
// BOF preprocessor bug prevent - insert me on top
// of your arduino-code
// From: http://www.a-control.de/arduino-  
fehler/?lang=en
#if 1
__asm volatile ("nop");
#endif
```