

Using Arduino

I can't upload a sketch with !!! in a string

Unfortunately this is a string captured by a certain bootloader called STK500v2bootloader for the Mega versions of Arduino. The bootloader can be used on an Uno, however it does not appear to be installed on any of my original or clone Uno boards.

To avoid this problem you can either use a different bootloader or modify your code. I would not recommend replacing the bootloader as some bootloaders for the Mega do not support writing the entire flash memory and sketches will fail to upload or run once they reach the 128Kb size.

If you prefer to simply revise your code, remember to use only two exclamation marks, or separate them using two strings or two print statements. Depending on your implementation there are possibly many ways of handling !!! without inserting it directly into code.

Please note that the error explained here will affect any data that contains the binary equivalent of !!!, the snippets below illustrate two valid sketches that will fail to upload.

```
char str[] = "An example string!!!";
```

```
void setup(){
  Serial.begin( 9600 );
  Serial.print( str );
}
```

```
void loop(){}
```

```
byte arr[] = { 0x14, 0x15, 0x21, 0x21, 0x21, 0x22 };
```

```
void setup(){
  Serial.begin( 9600 );
  Serial.write( arr, 6 );
}
```

```
void loop(){}
```

In the second example, the The actual use of this feature is explained [here](#).

A quick test of the monitor feature proved successful. At a baud rate of 115200 bps, you have to send in binary !!! within three seconds of resetting the Arduino. I was able to get this running in the IDE Serial monitor.

This caused an output of:

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

Using Arduino

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
Arduino explorer stk500V2 by MLS
```

Here is the output of a few commands.

- **Command: ?**

```
Bootloader>? CPU stats  
Arduino explorer stk500V2 by MLS  
Compiled on = Sep 9 2010  
CPU Type = ATmega2560  
__AVR_ARCH__ = 6  
GCC Version = 4.3.3  
AVR LibC Ver = 1.6.7  
CPU signature= 1E9801  
Low fuse = FF  
High fuse = D8  
Ext fuse = FD  
Lock fuse = FF  
Bootloader>
```

- **Command: @**

```
Bootloader>@ EEPROM test  
Writting EE
```

```
Arduino explorer stk500V2 by MLS Bootloader> Huh? Compiled on =  
CPU Type = __AVR_ARCH__ = AVR LibC Ver = GCC Version =  
CPU signature= Low fuse = High fuse = Ext fuse = L  
ock fuse = Sep 9 2010 1.6.7 4.3.3 V# ADDR op code in  
struction addr Interrupt no vector rjmp jmp What port: Port  
not supported Must be a letter Writting EE Reading EE eeprom er  
ror count= PORT 0=Zero address ctrs ?=CPU stats @=EEPROM test B=B  
link LED E=Dump EEPROM F=Dump FLASH H=Help L=List I/O Por
```

Reading EE

```
Arduino explorer stk500V2 by MLS Bootloader> Huh? Compiled on =  
CPU Type = __AVR_ARCH__ = AVR LibC Ver = GCC Version =  
CPU signature= Low fuse = High fuse = Ext fuse = L  
ock fuse = Sep 9 2010 1.6.7 4.3.3 V# ADDR op code in  
struction addr Interrupt no vector rjmp jmp What port: Port  
not supported Must be a letter Writting EE Reading EE eeprom er  
ror count= PORT 0=Zero address ctrs ?=CPU stats @=EEPROM test B=B  
link LED E=Dump EEPROM F=Dump FLASH H=Help L=List I/O Por
```

Using Arduino

```
eeeprom error count=0
```

```
Bootloader>
```

- **Command: L**

```
Bootloader>L List I/O Ports
```

```
PORTA
```

```
PORTB
```

```
PORTC
```

```
PORTD
```

```
PORTE
```

```
PORTF
```

```
PORTG
```

```
PORTH
```

```
PORTJ
```

```
PORTK
```

```
PORTL
```

```
Bootloader>
```

There are a few more options available and could be quite handy for debugging. So I hope this will clear up a lot of confusion as to why a sketch suddenly refuses to upload.

Unique solution ID: #1005

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