

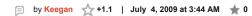


Customer Service Tutorials Forum Distributors About Us Contact Home Home | Tutorials | Beginning Embedded Electronics | Beginning Embedded Electronics -Search Your cart is empty search log in **Beginning Embedded Electronics - 11** Skill level: 🖈 Beginner Products O News by Nate | June 19, 2008 | 2 comments Tutorials ▼ Feeds **Common Mistakes, Tips and Tricks** Products Products 1. All grounds need to be connected together. **New Products** 2. TX/RX loop back trick: When in doubt of a serial conversion circuit, short the TX and RX pins **Product Changes Top Sellers** together to get an echo. Comments 3. Normal length wires for breadboard connections: Don't use a 9" wire where a 2" wire will do. **Featured Products** 4. Minimize short potential in your breadboard wiring: Don't expose an inch of wire from the insulation if all you need is 1/4". Resources **Breakout Boards** 5. You will learn best when you have a *simple* project to work on. Don't create the 'house-pet Cables Official SparkFun IRC Channel robot' just yet. Cellular 6. Google is, of course, your friend. When you don't know, go do some research. Custom PCBs 7. for(x = 0; x < 400; x++): If x is defined as an 8-bit integer, the for loop will loop forever! Classes Open Circuits 8. Soldering basics: Wet your @#\$% sponge. Components 9. Take your time with ground plane solder joints. Do not be fooled by a cold joint. **Development Tools** 10. Never trick yourself into thinking you're that good. Print out a 1:1 and compare the footprints! ▼ Currency **Dings and Dents** 11. Check that TX and RX are wired correctly to all peripherals. TX/RX swap is the one of the **Gift Certificates** greatest causes of PCB failures. Display prices in 12. When laying out a PCB with SMD micros, don't forget to include the programming port! GPS US Dollar 13. Don't run silkscreen across pads. Kits 14. Connector PCB footprint mis-numbering: always check the pin number on your connector -Canada Dollar LCDs they can have very obfuscated schemes. Australian Dollar Port-O-Rotary 15. In Eagle, use vector fonts only! **British Pound** 16. Review your gerber files before submitting them. Programmers Euro Prototyping Lecture 1 - Background and Power Supply Robotics ▼ Feedback Lecture 2 - How to Get Code Onto a Microcontroller Sensors What's on your mind? SFE Widgets Lecture 3 - What is an oscillator? Swag Tools Lecture 4 - UART and Serial Communication Tracking Lecture 5 - AVR GCC Compiling Wireless Please include your email Lecture 6 - Soldering Basics address if you'd like us to Tull catalog respond to a specific question. (PDF 5.1 MB) Lecture 7 - SMD Soldering Lecture 8 - Eagle: Schematics submit Lecture 9 - Eagle: PCB Layout If you would like to tell us more, you can fill out our form if vou Lecture 10 - Eagle: Creating a new part need some psycho-suggestive Common Mistakes, Tips and Tricks Back to Tutorials Comments 2 comments Log in to post comments. by Tracekill +1 | June 25, 2009 at 0:47 AM 0

1 of 2 8/22/09 12:35 PM

Hey guys. These are a great selection of tips, I found a few of them useful even at my early stage. As a computer science student however, I have to know: Why does the for-loop in 7 increment indefinitely? I'm not very intimate with the characteristics of an 8-bit integer. With the data sets we work with, I find myself more commonly using 16- and 32-bit integers. Is it simply because of the limited range of the 8-bit integer? If so would not for(x = 0; x < 256; x++) also loop indefinitely? Great advice and great tutorials. I've spent nearly \$100 at this site already, and it was worth every penny.

© SparkFun Electronics | Boulder, Colorado | Customer Service



If an 8-bit integer is 255, and you increment it, it will rollover and become 0. 8-bit integers can only hold a value from 0 to 255. The condition part of the loop would have to be "x < 255" or lower.

2 of 2 8/22/09 12:35 PM