



PEARSON NEW INTERNATIONAL EDITION

**The AVR Microcontroller and Embedded
Systems: Using Assembly and C**
Muhammad Ali Mazidi | Sarmad Naimi
Sepehr Naimi

Pearson New International Edition

The AVR Microcontroller and Embedded
Systems: Using Assembly and C

Muhammad Ali Mazidi | Sarmad Naimi

Sepehr Naimi

AVR Microcontroller and Embedded Systems: Using Assembly and C

Table of Contents

Cover

Table of Contents

1. Introduction to Computing
 2. The AVR Microcontroller: History and Features
 3. AVR Architecture and Assembly Language Programming
 4. Branch, Call, and Time Delay Loop
 5. AVR I/O Port Programming
 6. Arithmetic, Logic Instructions, and Programs
 7. AVR Advanced Assembly Language Programming
 8. AVR Programming in C
 9. AVR Hardware Connection, Hex File, and Flash Loaders
 10. AVR Timer Programming in Assembly and C
 11. AVR Interrupt Programming in Assembly and C
 12. AVR Serial Port Programming in Assembly and C
 13. LCD and Keyboard Interfacing
 14. ADC, DAC, and Sensor Interfacing
 15. Relay, Optoisolator, and Stepper Motor Interfacing with AVR
 16. Input Capture and Wave Generation in AVR
 17. PWM Programming and DC Motor Control in AVR
 18. SPI Protocol and MAX7221 Display Interfacing
 19. I2C Protocol and DS1307 RTC Interfacing
- Appendix: AVR Instructions Explained
- Appendix: Data Sheets
- Index