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Nota di contenuto	Front Cover; Dedication; The PIC Microcontroller: Your Personal Introductory Course; Copyright Page; Table of Contents; Acknowledgements; Preface to the third edition; Chapter 1. Introduction; Some tips before starting; Initial steps; The file registers; A program template; Chapter 2. Exploring the PIC5x series; Your first program; Testing the program; Hardware; Using the testing instructions; Timing; Seven-segment displays; The program counter; Subroutines and the stack; Logic gates; The watchdog timer; Final instructions; The STATUS file register; The carry and digit carry flags; Pages What caused the reset? Indirect addressing; Some useful (but not vital) tricks; Final PIC5x program - 'Bike buddy'; Chapter 3. The PIC12F50x series (8-pin PIC microcontrollers); Differences from the PIC16F54; Example project: 'PIC dice'; Chapter 4. Intermediate operations using the PIC12F675; The inner differences; Interrupts; EEPROM; Analogue to digital conversion; Comparator module; Final project: Intelligent garden lights; Chapter 5. Advanced operations and the future; Extra timers: TMR1 & ...; Capture/Compare/PWM; USART: Serial communication;

Programming tips

Chapter 6. A PIC development environment Chapter 7. Sample programs; Program A LedOn - Turns an LED on; Program B PushButton (1.0) - If a push button is pressed, turns on an LED; Program C PushButton (2.0) - Shorter version of PushButton 1.0; Program D Timing - LED states toggled every second, and buzzer on every five seconds; Program E Traffic - Pedestrian traffic lights junction is simulated; Program F Counter (1.0) - Counts signals from a push button, resets after 16; Program G Counter (2.0) - Stop reading button twice (otherwise, as Counter 1.0) Program H Counter (3.0) - Solves button bounce (otherwise, as Counter 2.0) Program I StopClock - A stop clock displaying tenths of seconds to minutes; Program J LogicGates - Acts as the eight different gates; Program K Alarm - An alarm system which can be set or disabled; Program L BikeBuddy - A speedometer and mileometer for bikes; Program M PIC Dice - A pair of dice are simulated; Program N Quiz - Indicates which of three push buttons has been pressed first; Program O Phonecard - To act like a phonecard which decrements a file register Program P TempSense - Displays whether temperature is too hot, too cold or OK Program Q; Appendix A: Specifications of some Flash PIC microcontrollers; Appendix B: Pin layouts of some Flash PIC microcontrollers; Appendix C: Instructions glossary; Appendix D: Number system conversion; Appendix E: Bit assignments of various file registers; Appendix F: If all else fails, read this; Appendix G: Contacts and further reading; Appendix H: PICKit™ 1 & BFMP Info; Appendix I: Answers to the exercises; Appendix J: Some BASIC commands in assembly; Index

Sommario/riassunto

John Morton offers a uniquely concise and practical guide to getting up and running with the PIC Microcontroller. The PIC is one of the most popular of the microcontrollers that are transforming electronic project work and product design, and this book is the ideal introduction for students, teachers, technicians and electronics enthusiasts. Assuming no prior knowledge of microcontrollers and introducing the PIC Microcontroller's capabilities through simple projects, this book is ideal for electronics hobbyists, students, school pupils and technicians. The step-by-step explanation
