PICmicro® MCU C - An introduction to programming the Microchip PIC® MCU in CCS C

Introduction

History
Why use C ?
PC Based versus PICmicro® MCU Based Program Development
Product Development
Terminology
Trying and Testing Code
C Coding Standards
Basics

1. C Fundamentals

Structure of C Programs
Components of a C Program
#pragma
main()
#include
printf Function
Variables
Constants
Comments
Functions
C Keywords

2. Variables

Data Types
Variable Declaration
Variable Assignment
Enumeration
typedef
type Conversions

3. Functions

Functions
Function Prototypes
Using Function Arguments
Using Functions to Return Values
Classic and Modern Function Declarations

4. Operators

Arithmetic
Relational
Logical
Bitwise
Increment and Decrement
Precedence of

5. Program Control Statements

if

if-else
?
for Loop
while Loop
do-while Loop
Nesting Program Control Statements
break
continue
switch
null
return

6. Arrays / Strings

One Dimensional Arrays
Strings
Multidimensional Arrays
Initializing Arrays
Arrays of Strings

7. Pointers

Pointer Basics
Pointers and Arrays
Passing Pointers to Functions

8. Structures / Unions

Structure Basics
Pointers to Structures
Nested Structures
Union Basics
Pointers to Unions

9. PICmicro® MCU Specific C

Inputs and Outputs
Mixing C and Assembler
Advanced BIT Manipulation
Timers
A/D Conversion
Data Communications
I2C Communications
SPI Communications
PWM
LCD Driving
Interrupts
Include Libraries
Additional Information