EECS 388: Embedded Systems C/C++ Learning Guidelines, Spring'23

To develop embedded systems, you must first understand the C/C++ programming language, particularly Embedded C. Embedded C is a collection of language extensions for C programming developed by the C standard group to solve concerns of commonality between C extensions for different embedded systems. There isn't much of a distinction between regular C and embedded C. Essentially, embedded C is about usage. Therefore, it is strongly advised to grasp certain fundamental concepts of C programming language in order to fully comprehend both the theory and labs of this course.

Some of the important topics are listed below:

1. Variables
2. Data Types
3. Operators (Arithmatic, Bitwise and Boolean)
4. Conditions (if, else, switch, etc.)
5. Loops (while, for, etc.)
6. String
7. User Input
8. Arrays
9. Pointers
10. Functions

Free resources to learn the above topics: (Follow the hyperlinks)

1. Basic C Tutorial
   This is one of the comprehensive free basic C tutorial resource available online. You can learn and practice C programming along with all the aforementioned topics here.
2. Introduction to the C Programming Language for Embedded Applications
   This series introduces several additional information on C programming language that are particularly helpful for embedded applications.
3. Online C Compiler
   If you don't want to install a C compiler in your PC or you want to practice on the go, this online compiler can be a great tool for you.
4. C Programming Tutorials for Beginners (YouTube)
   This is a four-hour video tutorial that covers all the essential topics necessary to learn C programming.

C is one of the oldest and most popular language of all time among all levels of programmers. So, there are tons of free resources you can find online as well. Feel free to explore.