

# C/C++

002 Intro

Notes of Practice

## 0.1 Introduction to Computers, the Internet and the Web

下载 Mingw-w64 要挂梯子  
没有梯子就在网上找网盘

将文件下载到没有中文和空格的路径（重点）

电脑 path 选账户环境变量，防止系统崩掉

vscode 配置的有点多，  
下方安利一个程序

1. 下载 Mingw-w64(就是它的版本问题，不要点大 download，即 10.0.0 版，在 file 里找一个 8.10.0 版本即可)
2. 下载 7z（官网上下载的需要解压）
3. 添加环境变量 path
4. 检验配置
5. 下载 vscode 插件
6. 配置 vscode

### 0.1.1 Computing

以下分别是 mingw-w64 和 7z 的官网

- <https://sourceforge.net/projects/mingw-w64/files/>
- <https://www.7-zip.org/download.html>

再给大家安利一个程序，可以帮你配置好 vscode，一次没配好还可以删了重配  
一开始是自己慢慢敲的，结果要反复调，用了这个就很省事。  
VS Code Config Helper，链接 <https://v4.vscch.tk/>，免费真香。

### 0.1.2 Number System

- Binary System Used in electronic devices (computers) as a series of "off" and "on" switches.  
A way to write numbers using only two digits ( 'bits' ): 0 and 1 (base2).  
Each digit's place value is twice as much as that of the next digit to the right and the place value increases by a power of two (1's, 2's, 4's place, etc.).  
In decimal, each digit holds ten values, and the place value increases by a power of ten (1's, 10's, 100's place, etc.).
- hexadecimal System  
hexadecimal (also base16, or hex) is a positional numeral system with a radix, or base, of 16.  
It uses sixteen distinct symbols, most often the symbols 0–9 to represent values zero to nine, and A, B, C, D, E, F (or alternatively a–f) to represent values ten to fifteen.

- Decimal Conversion

在 mingw64 里找到文件夹 “bin”，复制路径

在 windows 里搜索 “账户环境变量” 点进去，找到 Path，打开在下面加一行，把复制的路径粘贴进去

如果系统不一样，是写一排的，就打英文分号补后面

- Hex-Binary Conversion

打开 cmd，输入 “where gcc” 后弹出路径

输入 “gcc -version” 后弹出 gcc 版本信息

### 0.1.3 Modern Computer

Computers are good at representing/manipulating numbers. We need to tell the computer exactly what to do  
Sequence of instructions is called a computer program

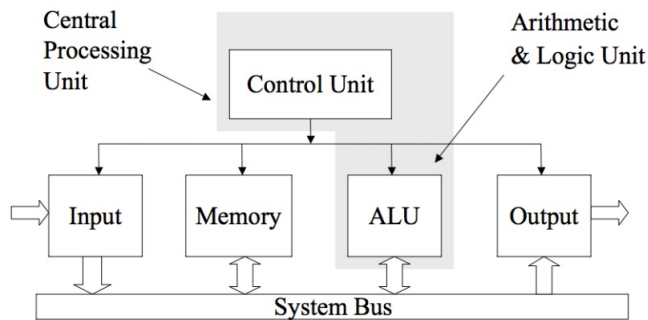


Figure 1: Architecture of the Modern Computer

- ALU or Arithmetic and Logic Unit (算术逻辑单元) processes data (adding, AND, etc.)
  - Ø Facilitates decisions by comparing numbers.
  - Ø Check overflow.
- Control Unit (控制单元) controls other units by turning on access to them as needed.
- The Control Unit and ALU are the heart of the Central Processing Unit (CPU - 中央处理器). The CPU has a special ‘memory’ called registers and can:
  1. Fetch instructions from the main memory.
  2. Execute them and hold results in registers.
  3. Pass and store results in memory, and
  4. (based on results) branch to different
- A computer memory (计算机内存) is an electronic holding place stores information.

## 0.2 网络教程

- <https://zhuanlan.zhihu.com/p/77074009> (小白教程)
- <https://code.visualstudio.com/docs/cpp/config-mingw> (官方教程很详细，但是实操起来缺少点细节)

Ø Primary memory: Ø Read-Only Memory (ROM)  
– Stores important information to operate the system.  
Ø It is non-volatile (can not be erased)

- <https://code.visualstudio.com/docs/cpp/cpp-debug> (官方 debug 教程)

### 0.3 关于 Dev-C++

为什么我在有这么方便统一的软件情况下还是选择配置 vscode。

- 首先，我是颜狗 lol
- 不止会用 C，我还要用其他语言，把各种语言放在一起写很方便
- 学习新技能
- vscode yyds

但还是要学习 dev 的，毕竟不是每个环境、每个考场都有 vs

最后，既然开了个头，那就把我以后的 C 语言笔记都放在里面吧