

Lesson 4 - Shell and gcc basics

Logical Computational Thinking

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Bash shell

What is a shell

Is a program that interprete commands given by the user. C programs can use the shell for basic input/output.

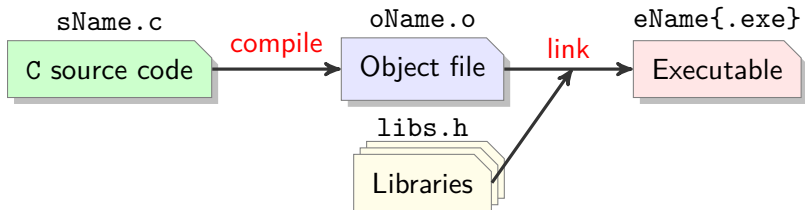
important commands

- ✓ `pwd` : stands for Print Working Directory, print the current path, with directories separated by `/`
- ✓ `ls` : list the content of the current directory, you can add the option `-l` for detailed output and `-a` for seeing also hidden files
- ✓ `cd path` : change the current directory to `path` , can be also a `nested/path` and `cd /` go to the root, `cd ~` or `cd` go to the user's home (in Cygwin the home is not the windows home)
- ✓ `./name` : for launching an executable called `name` inside current path

gcc (GNU C compiler)

What is a compiler

Transform a source code in something executable from the machine.



- ✓ **Compile:** `gcc -c sName.c -o oName.o` ; if `-o` option not present, automatically use `sName.o` as name
- ✓ **Link:** `gcc oName.o -o eName` ; if `-o` option not present, automatically use `a.out` as name
- ✓ **Compile + link:** `gcc sName.c -o eName`

Steps for building a program

1. Open a **text editor**
2. **Write** the code (or open and modify an existing one)
3. **Save** the file in a known path and with the extension **.c** (i.e. **name.c**)
4. Open the **shell** (Cygwin for Windows, Terminal for Mac)
5. Go to the same **path** of the point 3; use **cd** and remember that the path to Documents is:
 - for Windows with Cygwin:
/cygdrive/c/Users/[YourName]/Documents
 - for Mac: ~/Documents
6. **Compile** the program with **gcc name.c -o name**
7. **Execute** the program with **./name**
8. If you are happy with the result finish, otherwise go to point 2 with the same file