Lesson 3 - Compiling a C program

Logical Computational Thinking

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gcc compiler for GNU/Linux

- ✓ If you use Linux probably you have already gcc installed ☺

gcc compiler for Mac

Install

1. Go to `https://developer.apple.com/downloads/`;
2. provide authentication, and if needed accept the agreement;
3. search command line tools on the left box;
4. double click on Command line tools (...) for Xcode 6.4;
5. download dmg file (click on the filename on the right);
6. double click on the dmg and then double click on the pkg inside it;
7. follow the installation instructions.

First use

1. Open a terminal;
2. type `sudo gcc -v`;
3. provide authentication;
4. read license, with space, and agree, typing `agree` at the end (attention not to press to much spaces).

Text editor

- ✓ A famous text editor for mac is TextMate (version 2.0), you can download it here: `https://macromates.com/download`;
- ✓ another nice text editor is Atom: `https://atom.io`.

gcc compiler for Windows

Install

1. Go to `https://cygwin.com/install.html`;
2. download and run the corresponding exe (32 or 64 bits);
3. select Install from internet and all the default options;
4. when prompted, select a near server like `http://bo.mirror.gar.it`;
5. when the packages list appear click on the + left to textttdevel and then on `skip` on the left of `gcc-core` package (the word `skip` will change to a version number);
6. click `next` and accept all the question, when finished installing select `finish`.

First use

1. Open Cygwin from programs or desktop;
2. type `cd /cygdrive/c/Users/[YourName]/Documents` and you will go on your documents directory;
3. go to your preferred working folder where you have sources files (`ls` for listing files and directories, `cd` for changing directory, `tab` autocomplete path);
4. you can use the `gcc` compiler from here.

Optional

- ✓ Programs compiled with `gcc` inside Cygwin can be executed only inside Cygwin. If you want to compile native Windows programs select also `mingw-gcc-core` package during cygwin installation (you can re-run a cygwin installation and add packages), and then compile sources using `i686-pc-mingw32-gcc` instead of `gcc`.

Text editor

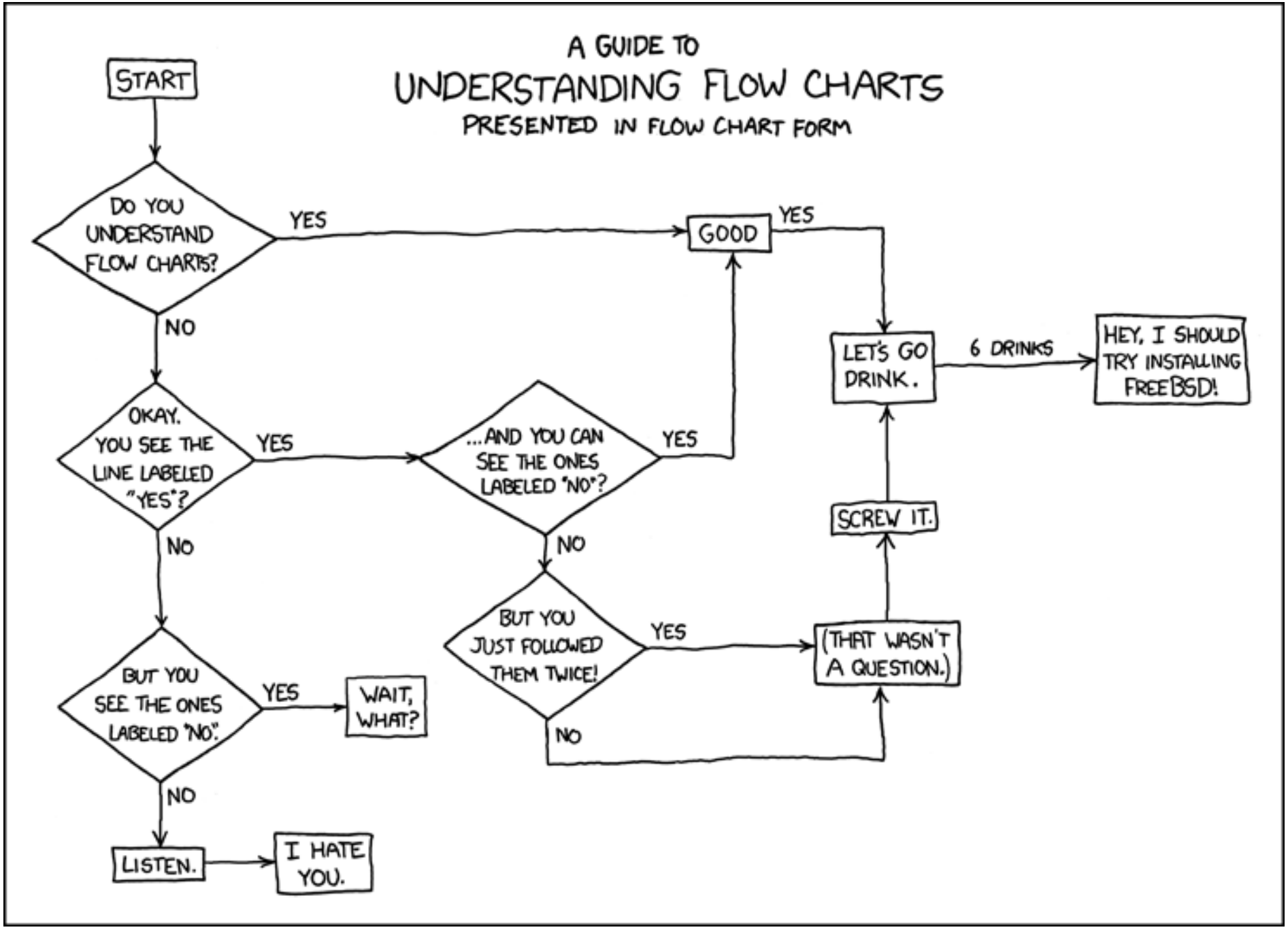
- ✓ A famous code editor for windows is notepad++, you can find it here: `https://notepad-plus-plus.org/download/`;
- ✓ another nice editor is Atom: `https://atom.io/`.

Alternative gcc compiler for Windows

An alternative to CygWin, maybe easier to use, is MinGW. With that you can call gcc directly from the Windows command prompt.

Install

1. go to `http://www.mingw.org/`;
2. click on `download installer` and execute it;
3. follow the instruction and select default options;
4. when asked for packages select `mingw32-base` under `Basic Setup`;
5. click `apply changes` under `installation` menu, close the packet manager after;
6. right-click on your "My Computer" icon and select "Properties";
7. click on the "Advanced" tab, then on the "Environment Variables" button;
8. you should be presented with a dialog box with two text boxes. The top box shows your user settings. The PATH entry in this box is the one you want to modify. Note that the bottom text box allows you to change the system PATH variable. You should not alter the system path variable in any manner, or you will cause all sorts of problems for you and your computer!
9. click on the PATH entry in the TOP box, then click on the "Edit" button, if PATH don't exists click on "new" and create it;
10. scroll to the end of the string and at the end add "`;C:\\MinGW\\bin`" (if the string is empty don't insert the ";"), in any case don't delete the possibly existing string;
11. press OK -> OK -> OK.


A GUIDE TO
UNDERSTANDING FLOW CHARTS
PRESENTED IN FLOW CHART FORM
START
DO YOU UNDERSTAND FLOW CHARTS?
YES
GOOD
YES
NO
LET'S GO DRINK.
6 DRINKS
HEY, I SHOULD TRY INSTALLING FREEBSD!
OKAY. YOU SEE THE LINE LABELED "YES"?
YES
...AND YOU CAN SEE THE ONES LABELED "NO"?
YES
SCREW IT.
NO
NO
BUT YOU JUST FOLLOWED THEM TWICE!
YES
(THAT WASN'T A QUESTION.)
BUT YOU SEE THE ONES LABELED "NO".
YES
WAIT, WHAT?
NO
NO
LISTEN.
I HATE YOU.