My Mini-Blog

MY1 C Compiler

Guess what I have been doing for the last month? I call it my1cc (duh!)... and I have published my initial work at codeberg.org. Obviously it is wayyyyy from being usable, but the parser seems to work... somewhat. In the end, I was hoping to develop a usable C compiler for 8051/8085 platforms, so that I can use it in my microcontroller/microprocessor classes. I do have to pause a bit... hopefully I can resume A.S.A.P.

But, DO NOT hold your breath for that 😬

That is all I have to say about that.

2026/02/10 11:25
programming, technology

Broadcom-sta on Slackware 15 for old laptop

I need to use my old laptop that requires broadcom-sta driver for its WiFi module.

Updated20240301: *Updated script*

getbuild_broadcom-sta

```
#!/bin/bash

TOOL="wget"
TCHK=$(which $TOOL 2>/dev/null)
[ ! -x "$TCHK" ] && echo "** Cannot find $TOOL!" && exit 1

OPTS="--recursive --no-parent --no-host-directories"
OPTS="$OPTS --reject index.html*"
OPTS="$OPTS --cut-dirs=3"
OPTS="$OPTS --execute robots=off"

FROM="https://www.slackware.com/~alien/slackbuilds/broadcom-sta/build/"

$TOOL $OPTS $FROM
echo "[DONE] $TOOL $OPTS $FROM"
# https://github.com/winterheart/broadcom-bt-firmware
```

That is all I have to say about that.

2026/02/10 11:22

linux, slackware

SPM-Level Computer Science

It turns out, Computer Science (CS) for SPM (Malaysia Certificate of Education @MCE) deals mainly with database and web interface. I have developed database-related systems before, but I was doing it without having formal class on it. Basically, I simply wing-it based on what I know on how computers store data (i.e. C data types).

I need to help my son with some questions, so I looked up 'database normalization' and found some things. The good thing is the way I implemented my database is mainly the 'correct' way. The not-so-good thing is that I am NOT able to help my son much with the practice questions - simply too many terms that I am not familiar with. Just shows that implementations need not be theoretically developed - experience (and good fundamentals) can also help to produce relatively sufficient results.

Anyways, the main reason I am writing this here is to 'store' the following 'note' (for my personal future reference).

db_normalization.txt

```
Database Normalization

Five 'rules' to make data normal: 1NF,2NF,...,5NF (NF=normal form)
- each rule builds on another, starting from 1NF
- 1NF/2NF/3NF -> Core Basics (normalization usually means 3NF!)
- 4NF/5NF -> Exceptions

*Note: Normalization is about grouping & connecting data the right way!

1NF is about
- atomic values
- unique identifiers

*Term: Imagine a spreadsheet -> [table] or [entity]

1NF rules
- a cell cannot contain more than 1 value
  = if it does, that column needs to be split into multiple columns
- each row (@record) must be unique
  = look for potential primary key
  = usually, we use system-generated (integers are better!)
- each column name must be unique
- there must be no repeating groups (or cells?)
  = it there are, remove and create new table (1NF!)

2NF rule
- all data/column(s) must depend on the primary key
  = if it does not, must be split into it own table (1NF!)
  = use primary key in new table as column value -> foreign key
```

```
3NF rule
- primary key must define all non-key column(s)
  = non-key column(s) must not depend on any other key
  = if this is not met, must create new table and use foreign key to
link
```

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computing

Why engineering students should not use Arduino

I am one of those tertiary educators in engineering (E&E) who is against the idea of Electronics Engineering students using Arduino for their bachelor degree project. This is a great example why that is the case. I know that is about software, but still the same principle.

When your system depends on other people's work (i.e. you use library/libraries most of the time in Arduino), there is always a possibility it cannot be maintained in the future. And, for engineering students, the most important thing for you is to be competent at creating that 'building block' (@fundamental code/design) on your own... so that even if you do not need to write/develop any, your can still fix it when something no longer works.

That is all I have got to say about that... for now 😎

2026/02/10 11:24
education, electronics

Valgrind

Just a self reminder - I actually only just found out how useful `valgrind` can be 😛

Simple run

```
$ valgrind --tool=memcheck --leak-check=full --track-origins=yes -s
<command>
```

Or, with logger

```
valgrind --leak-check=full --track-origins=yes --log-file=valgrind.rpt
<command>
```

Maybe I will elaborate on this some other time.

2026/02/10 11:20
programming

Useful desktop entry for my personal use

Place this in `$HOME/.local/share/application`

gedit-standalone.desktop

```
[Desktop Entry]
Version=1.0
Type=Application
Name=gEdit (Standalone)
Comment=Edit text files
Exec=gedit -s %U
Icon=org.gnome.gedit
Terminal=false
Categories=GNOME;GTK;Utility;TextEditor;
MimeType=text/plain;text/x-chdr;text/x-csrc;text/x-c++hdr;text/x-
c++src;text/x-java;text/x-dsrc;text/x-pascal;text/x-perl;text/x-
python;application/x-php;application/x-httpd-php3;application/x-httpd-
php4;application/x-httpd-
php5;application/xml;text/html;text/css;text/x-sql;text/x-diff;
StartupNotify=true
Keywords=Text;Editor;
```

geany-workspace.desktop

```
[Desktop Entry]
Version=1.0
Type=Application
Name=Geany (WorkSpace)
Comment=A fast and lightweight IDE using GTK+
Exec=geany_space %F
Icon=geany
Terminal=false
Categories=GTK;Development;IDE;TextEditor;
MimeType=text/plain;text/x-chdr;text/x-csrc;text/x-c++hdr;text/x-
c++src;text/x-java;text/x-dsrc;text/x-pascal;text/x-perl;text/x-
python;application/x-php;application/x-httpd-php3;application/x-httpd-
php4;application/x-httpd-
php5;application/xml;text/html;text/css;text/x-sql;text/x-diff;
StartupNotify=true
Keywords=Text;Editor;
Name[en_US]=Geany (WorkSpace)
```

android-studio.desktop

```
[Desktop Entry]
Version=1.0
Type=Application
```

```
Name=Android Studio
Comment=
Exec=/home/share/appx/android-studio/bin/studio.sh
Icon=/home/share/appx/android-studio/bin/studio.png
Path=/home/share/appx/android-studio/bin
Categories=Development;IDE;
Terminal=false
StartupWMClass=jetbrains-studio
StartupNotify=true
```

arduino.desktop

```
[Desktop Entry]
Name=Arduino
Comment=Arduino IDE
Exec=/home/share/appx/arduino/arduino
Path=/home/share/appx/arduino
Icon=/home/share/appx/arduino/lib/arduino_icon.ico
Terminal=false
Type=Application
Categories=Utility;Application;Development;
```

arduino-appimage.desktop

```
[Desktop Entry]
Type=Application
Version=1.0
Name=Arduino IDE (App-Image)
Comment=Arduino IDE (App-Image)
Exec=/home/share/appx/appimage/arduino-ide %F
Terminal=false
Categories=Utility;Application;Development;
```

scangearmp2.desktop

```
[Desktop Entry]
Comment=Scanner
Terminal=false
Name=Canon e3370 Scanner
Exec=scangearmp2
Type=Application
Icon=scanner-symbolic
Name[en_US]=ScanGear-E3370
```

librewolf.desktop

```
[Desktop Entry]
```

```
Type=Application
Version=1.0
Name=LibreWolf (App-Image)
Comment=Access to Internet
Exec=/home/share/appx/appimage/librewolf %F
Icon=librewolf
Terminal=false
Categories=Network;WebBrowser;
```

2023/08/29 13:04
linux

Using UniMAP Thesis Latex template with TexLive

On Slackware

- texlive is now default! (used to be tetex)
- get `texlive-extra` from https://slackbuilds.org

On Devuan

- install

```
$ apt install texlive texlive-latex-extra texlive-science
```

- install

```
$ apt install texlive-lang-other texlive-fonts-extra texlive-font-utils
```

- need to check this

```
$ apt install texlive-bibtex-extra biber
```

biber package info text says it breaks texlive-bibtex-extra 

Edited20230922 Fixed wrong package name

2023/08/29 12:54
latex, texlive, linux

Getting word count for Latex-generated document

We need `texcount` binary for this. For a Latex source saved as `paper.tex`, simply run

```
$ texcount -inc -v -sum paper.tex
```

to get various statistics for each `*.tex` (files specified using \include will also be in the analysis). To

get the information in an HTML formatted file, run

```
$ texcount -inc -v -html -sum paper.tex >info.html
```

Edit the written HTML document to filter out any information if necessary.

That is all I have to say about that 

2023/08/29 13:04
latex, technology, texlive

Running C program on Android

I come across this page today which was written in 2020! How could I have missed this??? Anyway, I have actually been thinking of exploring this opportunity for years (always got stucked thinking how cumbersome Android NDK is!) - well, I guess this can be a good starting point! The repo to look into is this. Unfortunately, I am working on something else at the moment... let's see how far I can get with this.

That is all I have to say about that.

2023/08/29 13:04
programming, android

Using DWM on Slackware

I have used DWM before on a laptop - it was nice and minimal... perfect for that old laptop. I just got myself a refurbished i5-based desktop PC and I decided to install Slackware and use DWM on it. For networking, I have network-manager icon running in system tray (using systray patch). For volume control, I have a simple script (wrapper for amixer) to help me with that. But, I also need to test some headphones for my kids. So, I just found out that ALSA actually have a binary `speaker-test` to help with that!

A simple test on simple stereo speaker (2-channel) can be done by running:

```
$ speaker-test -c 2 -t wav -l 4
```

That is all I have to say about that.

2023/08/29 13:04
linux, audio

Older entries >>