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Dissector

Dissector disassembles 6502 code. As of now, this primarily is a commandline-tool, but there is an optional gui available. It runs on 64 bit versions of Linux, MacOS, Windows and other systems supported by Python.

Why Dissector?

reason	description
open source	easy to modify and to improve, any useful contribution is highly welcome
portable	available on Linux, MacOS, Windows and any other system supported by Python3
illegals	full illegal opcode support
cycles	used cpu-cycles shown for each opcode
extensive info	extensive C64 memory map carefully gathered from best sources I could find online
assemblers	ACME and KickAssembler supported, easy to implement other assemblers

Usage

dissector v1.00 [21.08.2021] *** by fieserWolf

usage: dissector.py [-h] [-lf LABEL_FILE] [-o OFFSET] [-l LIMIT] [-t {acme,kickass}] [-d] [-

This program disassembles 6502 code.

positional arguments:

input_file	binary input file
output_file	sourcecode output file
startaddress	startaddress in hex

optional arguments:

-h, --help	show this help message and exit
-lf LABEL_FILE, --label-file LABEL_FILE	labels json-file, default="c64labels.json"
-o OFFSET, --offset OFFSET	offset in hex
-l LIMIT, --limit LIMIT	limit in hex

```

-t {acme,kickass}, --asmtype {acme,kickass}
                                assembler-type
-d, --dump                      show memory-dump
-i, --illegals                  use illegal opcodes
-ll, --labels                   show label-list
-cc, --cycles                   show cycles

```

Example: `./dissector.py test.prg test.a 2000 -lf c64labels.json -o 2 -l 100 -t acme --dump -`

Have a good look in /doc.

C64 information sources

Graham's 65xx resources <http://www.oxyron.de/html/opcodes02.html> Copyright 2002-2012 Graham. Last change on 03.11.2012.

book: Mapping the C64 http://unusedino.de/ec64/technical/project64/mapping_c64.html

Commodore 64 RAM Memory Map V1.2, published 1 Sep 1994 <ftp://arnold.c64.org/pub/docs/C64rom.lib> <ftp://arnold.c64.org/pub/docs/C64ram.doc>

Author

- fieserWolf/Abyss-Connection - *code* - <https://github.com/fieserWolf> <https://csdb.dk/scener/?id=3623>
- Streetuff/TRSI - *code* - graphical user interface

Getting Started

dissector comes in two flavors:

- standalone executable for 64-bit systems Linux, MacOS/Darwin and Windows (see releases)
- Python3 script

Run the standalone executable

Just download your bundle at releases and enjoy. Keep in mind that only 64bit systems are supported as I could not find a 32bit system to generate the bundle.

Note for Windows users

If some antivirus scanner puts dissector into quarantine because it suspects a trojan or virus, simply put it out there again. It isn't harmful, I used PyInstaller to bundle the standalone executable for you. Unfortunately, the PyInstaller bootloader triggers a false alarm on some systems. I even tried my best and re-compiled the PyInstaller bootloader so that this should not happen anymore. Keep your fingers crossed ;)

Note for MacOS users

Your system might complain that the code is not signed by a certificated developer. Well, I am not, so I signed the program on my own.

"dissector" can't be opened because it is from an unidentified developer.

You need to right-click or Control-click the app and select "Open".

Run the Python3 script directly

Download *dissector.py* and *c64labels.json* into the same folder on your computer.

```
python3 dissector.py
```

graphical user interface

If you prefer a gui, start the script "gui.py":

```
python3 gui.py
```

This graphical interface was kindly provided by Streetuff/TRSI. It uses PySimpleGUI library.

Prerequisites

At least this is needed to run the script directly:

- python 3

- argparse
- PySimpleGUI (optional for the graphical user interface)

Normally, you would use pip like this:

```
pip3 install argparse pysimplegui
```

On my Debian GNU/Linux machine I use apt-get to install everything needed:

```
apt-get update  
apt-get install python3 python3-argh
```

PySimpleGui is not included in Debian GNU/Linux yet. You have to install it with pip as described above.

Changelog

Future plans

- maybe: implement other architectures

Any help and support in any form is highly appreciated.

If you have a feature request, a bug report or if you want to offer help, please, contact me:

<http://csdb.dk/scener/?id=3623> or wolf@abyss-connection.de

Changes in 1.01

- bugfix: KERNEL labels appear in label-list now

Changes in 1.00

- initial release

License

Dissector 6502 disassembler.

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Version 3, 29 June 2007

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```
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