PyCRC Documentation

Release 1.0

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CHAPTER 1

PyCRC

Python libraries for CRC calculations (it supports CRC-16, CRC-32, CRC-CCITT, etc)

- Free software: GPLv3 license
- Documentation: https://pycrc.readthedocs.org.

1.1 Features

- Different modules supported (CRC16, CRC32, CCITT, CRC16DNP, CRC16Kermit, CRC16SICK)
- Supports strings and hexadecimal as input
- Demo file provided
- Unit tested in different environments

CHAPTER 2

Installation

At the command line:

```
$ easy_install PyCRC
```

Or, if you have virtualenvwrapper installed:

```
$ mkvirtualenv PyCRC
$ pip install PyCRC
```

CHAPTER 3

Usage

To use PyCRC in a project, import the needed module:

```
from PyCRC.CRC16 import CRC16
from PyCRC.CRC16DNP import CRC16DNP
from PyCRC.CRC16Kermit import CRC16Kermit
from PyCRC.CRC16SICK import CRC16SICK
from PyCRC.CRC32 import CRC32
from PyCRC.CRCCCITT import CRCCCITT
```

Then, easy to use as:

```
input = '12345'
print(CRCCCITT().calculate(input))
```

or for hexa strings:

```
input = b'\x05d\x05\xc0\x00\x01\x00\x0c'
print(CRCCCITT().calculate(input))
```

CHAPTER 4

Contributing

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

You can contribute in many ways:

4.1 Types of Contributions

4.1.1 Report Bugs

Report bugs at https://github.com/cristianav/PyCRC/issues.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

4.1.2 Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with "bug" is open to whoever wants to implement it.

4.1.3 Implement Features

Look through the GitHub issues for features. Anything tagged with "feature" is open to whoever wants to implement it.

4.1.4 Write Documentation

PyCRC could always use more documentation, whether as part of the official PyCRC docs, in docstrings, or even on the web in blog posts, articles, and such.

4.1.5 Submit Feedback

The best way to send feedback is to file an issue at https://github.com/cristianav/PyCRC/issues.

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.
- Remember that this is a volunteer-driven project, and that contributions are welcome :)

4.2 Get Started!

Ready to contribute? Here's how to set up *PyCRC* for local development.

1. Fork the *PyCRC* repo on GitHub.
2. Clone your fork locally:

```
$ git clone git@github.com:your_name_here/PyCRC.git
```

3. Install your local copy into a virtualenv. Assuming you have virtualenvwrapper installed, this is how you set up your fork for local development:

```
$ mkvirtualenv PyCRC
$ cd PyCRC/
$ python setup.py develop
```

4. Create a branch for local development:

```
$ git checkout -b name-of-your-bugfix-or-feature
```

   Now you can make your changes locally.

5. When you're done making changes, check that your changes pass flake8 and the tests, including testing other Python versions with tox:

```
$ flake8 PyCRC tests
$ python setup.py test
$ tox
```

   To get flake8 and tox, just pip install them into your virtualenv.

6. Commit your changes and push your branch to GitHub:

```
$ git add .
$ git commit -m "Your detailed description of your changes."
$ git push origin name-of-your-bugfix-or-feature
```

7. Submit a pull request through the GitHub website.

4.3 Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests.
2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring, and add the feature to the list in README.rst.
3. The pull request should work for Python 3.3, and 3.4, and for PyPy. Check https://travis-ci.org/cristianav/PyCRC/pull_requests and make sure that the tests pass for all supported Python versions.

4.4 Tips

To run a subset of tests:

```
$ python -m unittest tests.test_PyCRC
```

CHAPTER 5

Credits

5.1 Development Lead

- Cristian Năvălici <cristian.navalici@runbox.com>

5.2 Contributors

- Joshua Pereyda <joshua.t.pereyda@gmail.com>

CHAPTER 6

History

CHAPTER 7

1.3 (2015-08-21)

- mainly improving performance issues

CHAPTER 8

1.2 (2015-03-10)

- Cosmetic Refactoring

CHAPTER 9

1.1 (2014-05-01)

- Migration to python 3

CHAPTER 10

1.0 (2011-10-10)

- Initial launch

CHAPTER 11

Indices and tables

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