

SaC lab*

1 Getting started

Make sure you have the SaC compiler available. Download and install the latest distribution from

<http://www.sac-home.org>  Download¹

Make sure that after installation the compiler `sac2c` is being found in your path. It should have been placed into `/usr/local/bin`. To verify, you can simply call `sac2c -h` which should produce a lot of output detailing the individual compiler options.

Next, download the matching pre-compiled standard library from

<https://github.com/SacBase/Stdlib/releases>.

Once it has been installed, you should be all set to get started.

2 Basic Exercises

Either download the tutorial from

<http://www.sac-home.org>  Docs

or look at the online version there. Attempt the following exercises from the tutorial:

1. Write a hello world program, compile and run it.
2. Exercise 1 from Section 2.1.1 Make sure you compile with `-check tc` as this introduces a higher level of runtime checks.
3. Exercise 4 from Section 2.1.2
4. Exercise 5 from Section 2.2.1
5. Exercise 9 from Section 2.2.2
6. Exercise 15 from Section 2.2.2

3 Pi

Implement the approximation of π discussed in the lecture. Compile it using `-t mt_pth` as additional option. Run the executable with a commandline argument `-mt n` where `n` is a number between 1 and 10.

4 Mandelbrot

Download the package SDL from <https://github.com/SacBase/SDL> and compile it using the build instructions in `README.md` of the package.

Then download the Tutorial package (<https://github.com/SacBase/Tutorial>) from github. Now attempt Exercises 30 and 31 from Section 6.2 of the tutorial. The template files mentioned in the tutorial can be found in the Tutorial package in the directory `L8_case-study_mandelbrot`.

*If you encounter any problems please do either utilise our mailing list `sac-user` ( Community/Mailing Lists) or drop me an email at `S.Scholz@hw.ac.uk`.

¹On MacOS you may have to go through Preferences  Security & Privacy in order to open the package.