How to install libraries

Christian Arnold

October 14, 2015

1 Install the GMP-library

1.1 In Ubuntu (or similar) based systems

```
sudo apt−get install gmp
```

1.2 Using Macports

```
sudo port install gmp
```

1.3 Locally, in Unix based systems

Download: https://gmplib.org/download/gmp/gmp-6.0.0a.tar.bz2

```
tar −xvf gmp−6.0.0a.tar.bz2
```

Read the INSTALL file in gmp-6.0.0/ for further instructions, or do the following:

```
./configure −−prefix='/path/to/my/directory/'
make
make check
make install
```

If the configure script complains that m4 is missing you have to install m4 too:
Download http://ftp.gnu.org/gnu/m4/m4-latest.tar.gz

```
tar −xvzf m4−latest.tar.gz
```

In m4. . . :

```
./configure −−prefix='/path/to/my/directory/'
make
make check
make install
```

You now have to add the path "/path/to/my/directory/bin/" to your \$PATH variable. In order to do so, add

```
PATH=$PATH:/path/to/my/directory/bin/; export PATH
```

to your .bashrc and restart your terminal.

1.4 Test if it works

Your can use the small program test.c to test the installation. To compile it, you have to link the installed libraries:

```
gcc −o executable −I/path/to/my/directory/include/ test.c \
−L/path/to/my/directory/lib/ −lgmp −lm
```

The above description is exemplary for all libraries you might need during this course.