1) Intructions for installing CAMB (assumming a linux distribution)

*Prerequisites:
gfortran compiler (free) or ifort (non-free, but Intel provides free-licenses
for students. To install CAMB is not mandatory to install ifort, but we do
need this compiler to install CosmoMC. See below of arXiv:1409.1354v3 for
installing ifort.

*Steps:
i) Go to website of CAMB:
   http://camb.info/

ii) Select Readme. Once inside go to the "Compiling and running" section and then
select "Download". Then fill in all the info required, go to your email inbox
and click on the link provided. If you chose the nov-2016 version, the file to
download would be:
   CAMB-Nov2016.tar.gz

iii) Move the the tar file to the directory of your election. Then open a terminal,
open the directory where you place the tar file and type:
   tar -xvf CAMB-Nov2016.tar.gz
You'll see that a new directory has been created. Open this new directory.

iv) Edit the Makefile (with emacs, vi or the editor of your preference). The only
thing you need to do is to uncomment the compiler and edit the flags. In my case I
use ifort. Check the Makefile_CAMB for reference.

v) Compile the code by typing:
   make
After that, you'll see that the executable file "camb" as been created

2) Instructions for installing CosmoMC (assumming a linux distribution)
The installation of CosmoMC is a little bit tricky and I strongly recommend to check
arXiv:1409.1354v3. Here I provide some comments.

*Steps
i) Get the ifort compiler (14 or higher). You can ask for a free-license intended to
students in the web site:
   https://software.intel.com/en-us/qualify-for-free-software/student
Select the distribution of your OS, fill in the information required and once again
go to your email inbox to get the download link. KEEP SAFE THE SERIAL NUMBER.
It is not mandatory to install the whole Parallel Studio XE Cluster Edition package;
the only thing you'll need is the fortran composer file, which is encoded in a file
of the form (the name varies according the version you download):
   l_fcompxe_2015.5.223.tgz
Follow the steps in arXiv:1409.1354v3/A. Installing Intel@Fortran Compiler. This
process
takes you almost 1hr (most of the time is spent by downloading the compiler)

ii) Install Open MPI. Once again, check arXiv:1409.1354v3/A. Installing Open MPI.
When
you execute ./configure check that F77, FC and F90 are pointing to the exact location
of ifort. In my case, the exact location of ifort is
ls /home/ealmaraz/software/intel/l_fcompxe_2015.5.223/composer_xe_2015.5.223/bin/
intel64

When I type the ls command within this directory I get:

codecov   gcore-ia   ifort_libFNP.so libiml_attr.so
map_opts   profmerge   xiar
codecov_libFNP.so gdb-ia   inspxe-inject   libintelremotemon.so

```
mic_extract      proforder          xild
fortcom            ifort      inspxe-runsc     loopprofileviewer.csh
offload_extract  tselect
fpp                ifort.cfg  inspxe-wrap      loopprofileviewer.sh
profdcg          tselect_libFNP.so
```

Here you can see (3th row, 2nd column) that ifort is present.

The process of installing OpenMPI takes you almost 20 minutes

iii) The installation of CFITSIO is optional (depending whether or not you want to use WMAP data). If so, check section C of arXiv:1409.1354v3. This process takes you no more
than 10 minutes

iv) Same for Healpix. If you decide to install it, it takes almost 20 minutes

v) If you want to use WMAP data, check section E. The files you need to edit are Makefile and WMAP_9yr_options.F90. You can check my Makefile_WMAP and WMAP_9yr_options.F90 files. This process takes almost 1hr (most of the time is spent by
downloading the data)

vi) Get the Planck data. Enter the CosmoMC webpage:
    http://cosmologist.info/cosmomc/
Click on "Planck readme". Then click on "Planck Legacy Archive" (in the "Using the Planck likelihood with CosmoMC" section), then "Likelihood" and download the files
    COM_Likelihood_Code-v2.0_R2.00.tar.bz2   (the likelihood)
    COM_Likelihood_Data-baseline_R2.00.tar.gz (the data)
Follow the instructions of arXiv:1409.1354v3/F. Building Planck Data. Note that the point 5 (where you set the enviroment variables in your bash profile) is outdate. Better to follow the webpage instruction
    source ./bin/clik_profile.sh
In my case, I appended the next line in my .bashrc file:
   source /home/ealmaraz/software/planck/PR2_2015/plc-2.0/bin/clik_profile.sh
This process takes almost 2.hr (guess where you'll spent the most of the time)

vii) Finally get the CosmoMC code. Go to the page:
    http://cosmologist.info/cosmomc/
click "Readme"->"download" and follow a similar procedure as for CAMB. Check section G of arXiv:1409.1354v3. Check also my Makefile_CosmoMC, that is, the Makefile I stored in the source directory. This process takes you 15 minutes.

That's all. Any doubts feel free to ask me during the workshop or go to the CosmoCoffe forum:
     http://cosmocoffee.info/

depends on what are you planning to do