CoCoA System
Computations in Commutative Algebra

Home Page

Install and run CoCoA

If you install CoCoA, please send us an email at `cocoa at dima.unige.it` to be included in the CoCoA users list. All members of this list will be kept up to date about the progress of the system.

Macintosh - *Unix/Linux* - *Windows* - *ARM*

Macintosh

MacOS X

You may use the Textual Interface (within **Terminal**) or Emacs Interface (within **Emacs**) or the GraphicalUserInterface:

Textual interface

Download CoCoA and DRAG the **CoCoA-4.7** folder into the **Applications** folder.

Double-click on the **cocoa** icon. This should automatically open the application **Terminal** and run CoCoA into it.

If you want to add **cocoa** to your **Dock** just drag the icon into the file area of your Dock (next to the **Trash** icon)

This way you will have NO EDITING facilities, so you might want to:

- open the CoCoA files with your preferred editor
- CUT and PASTE CoCoA commands from it to the CoCoA-Terminal window.

More instructions

Graphical interface

See below for running instructions.

🐃 Emacs interface

Download CoCoA and DRAG the **CoCoA-4.7** folder into the **Applications** folder.

May 2006: Suggested Emacs application (a proper Emacs with a remarkable Macintosh "feel")
Carbon Emacs Package (for Mac OS X 10.4 or later)

Setting up Emacs

- For Emacs experts: copy the settings you want from **CoCoA-4.7/emacs/cocoa.emacs** into your **~/.emacs**.
- For everyone else: go to the folder **emacs** in **CoCoA-4.7** and double-click on one of

  `new-prefs.command` creates a brand new **.emacs** file
      (moving the old one, if you had one, into previous.emacs)

  `update-prefs.command` adds one line to your current **.emacs** file
      (creating it if necessary)

ALL SET!!
Now Emacs recognises files with a CoCoA extension (**.coc, .cocoa, .cpkg**): REMEMBER to add one to the name of your files!

If under **Finder** you cannot see the file extensions I suggest you check **[Advanced] Show all file extensions** in **Finder - Preferences...**.

Open by dragging: You may open any file in Emacs by **dragging** it onto the Emacs icon or into an Emacs window.

Open by double-click: If you want all your cocoa files to **open with Emacs** when **double-clicked**, this is what you need to do:

1. Select in Finder a file with a cocoa extension, say `foo.cocoa` and select **File - Get Info**, click the **Open with:** triangle and choose **Other...** to select **Emacs**.
2. Now click on **Change all...** to "Use this application to open all documents like this" (i.e. with the extension `.cocoa`).

A few words for the Emacs beginners...

Older Emacs applications for MacOSX 10.2 and MacOSX 10.1: download and move into the **Applications** folder.

MacOS 9

The code will (should) automatically expand into a folder called "CoCoA 4.0".

When you are in the folder "CoCoA 4.0", double-click on "CoCoA 4" **to run** the program.

To enter a one-line command press the "Enter" key (not Return!) at such line. (e.g. `1+1;`<Enter>)
To enter a multi-line command highlight the area with the mouse and press the "Enter" key.

The **manual** is called by typing `Man( );`<Enter>.
If you want to know about some topic, e.g. Hilbert-Poincare' Series, type a suitable substring, e.g.
`Man("hilb");`<Enter>

To quit CoCoA select "Quit" from the "Edit" menu.

Unix/Linux

[If no binary exists for your platform, send us email at `cocoa at dima.unige.it`]

Download CoCoA and gunzip-tar your binary in the directory you want, e.g.

```
cp cocoa-4.7-text-linux.tar.gz /usr/local/
cd /usr/local/
gunzip cocoa-4.7-text-linux.tar.gz
tar xf cocoa-4.7-text-linux.tar
```

It will produce a directory called "cocoa-4.7".

For a personal installation

When you are **in the directory "cocoa-4.7/"**, type `./cocoa_text` **to run** the program.

For a system wide installation

To allow all users in a Unix system to share the same installation you should:
- if your cocoa directory is NOT `/usr/local/cocoa-4.7` then you need to edit the file
called `cocoa` according to the instructions contained therein (you probably want to change
only the value of the variable `COCOA_PREFIX=/usr/local/cocoa-4.7`).
- link it to some publicly accessible directory of executables like this:

```
cd /usr/local/bin
ln -s /usr/local/cocoa-4.7/cocoa cocoa
```

Any user may then type `cocoa` **to run** the program from any directory.

Graphical interface

In the CoCoA directory you will find two executables **cocoa** and **xcocoa**. "cocoa" runs the CoCoA
system with a standard textaul (or emacs) interface. "xcocoa" runs the CoCoA system with the new
graphical interface based on the QT library: see below for running instructions.

Textual interface

Install CoCoA   10/08/05 11:06

After choosing for a personal or system wide installation, type **cocoa** in a shell and follow these [instructions](#).

🐃 Emacs Interface

Open your **.emacs** file with any editor (it should be in your home, and it may not exist!):

- If you are familiar about changing your **.emacs**, then copy the settings you want from **cocoa-4.7/emacs/cocoa.emacs**.

- If you are not then just add this line at the end of your **.emacs**:
  ```
  (load-file "<path>/emacs/cocoa.emacs")
  ```
  for example:
  ```
  (load-file "/usr/local/cocoa-4.7/emacs/cocoa.emacs")
  ```
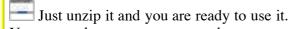 If you did not install cocoa in **/usr/local/** then you need to correct the path in the files:
  1. **<path>/cocoa-4.7/emacs/cocoa.emacs**
  2. **<path>/cocoa-4.7/cocoa**

ALL SET!!
Now Emacs recognises files with a CoCoA extension (**.coc, .cocoa, .cpkg**): REMEMBER to add one to the name of your files!

A few words for the Emacs [beginners](#)...

MS Windows

Just unzip it and you are ready to use it.
You may also want to create shortcuts to the files wincocoa.exe and CoCoAServer.exe on your desktop. Please remember to start the CoCoA server before starting WinCoCoA if you want to use CoCoA 5 functions such as GBasis5(...).

The usage of the graphical user interface is explained [below](#).

🐃 Unzip it and follow the easy instructions in the **README-emacs** file in the directory **emacs-win**

Here is a download for Emacs: http://mirrors.usc.edu/pub/gnu/emacs/windows/

For further installation instructions, we suggest you have a look at the [CoCoA Forum](#) and the [CoCoA Wiki](#)

ARM

Same as the Textual Interface, but it requires <Control><Enter> (and not just Enter) after each line, and <Control>-D to exit.

http://cocoa.dima.unige.it/download/install.html#Mac   ページ 4/5

Textual interface

To enter a command type it in and press <Enter> or <Return> (e.g. `1+1;`<Enter>)
Don't forget the ";" at the end!

The **manual** is called by typing `Man( );`<Enter>.
If you want to know about some topic, e.g. Hilbert-Poincare' Series, type a suitable substring, e.g.
`Man("hilb");`<Enter> or `?hilb`<Enter> (starting from version 4.2)

To quit CoCoA type `Quit;`<Enter> (or `Ciao;`<Enter> ;-)

Graphical User Interface (MacOS, Linux/Unix, MSWindows)

To enter commands from the interactive buffer click on the "cog" symbol in the top bar or type
<Control><Enter>.

To enter commands from an editing buffer (file): a one-line command from a file or a selected
region, type <Control><Enter>.

To quit enter `Quit;` or select Quit from the Edit menu.

Manual: Click on `Help`. You get a Windows help system which is self-explanatory. You can search
for all commands containing (in their name or description) a given string.

The GUI help system is also available on-line and downloadable at
`http://cocoa.dima.unige.it/download/doc/`