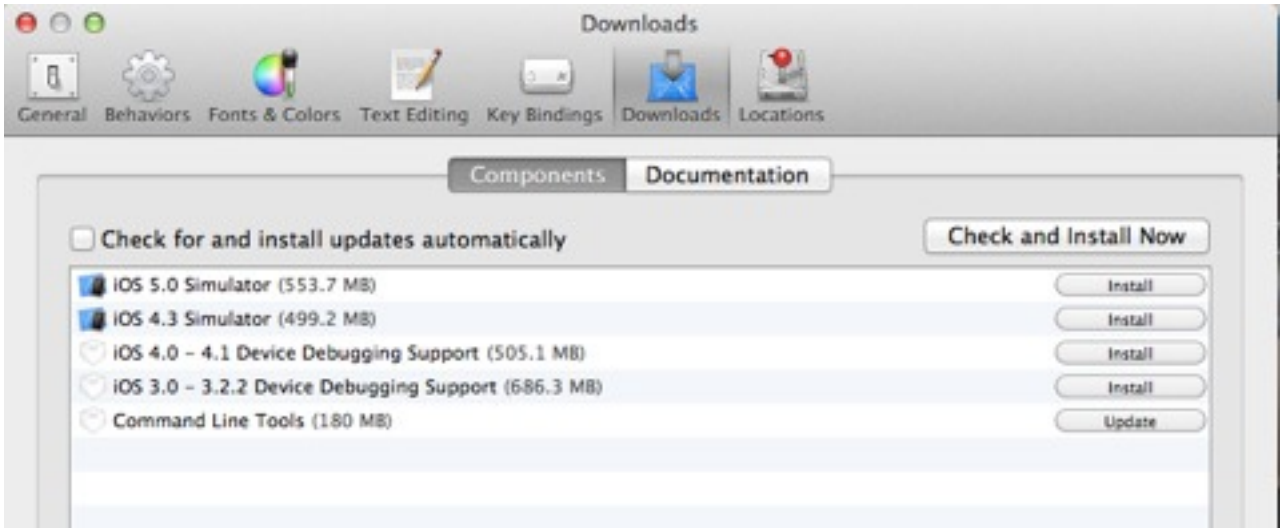
Guide to Installing AUTO07p on your Mac

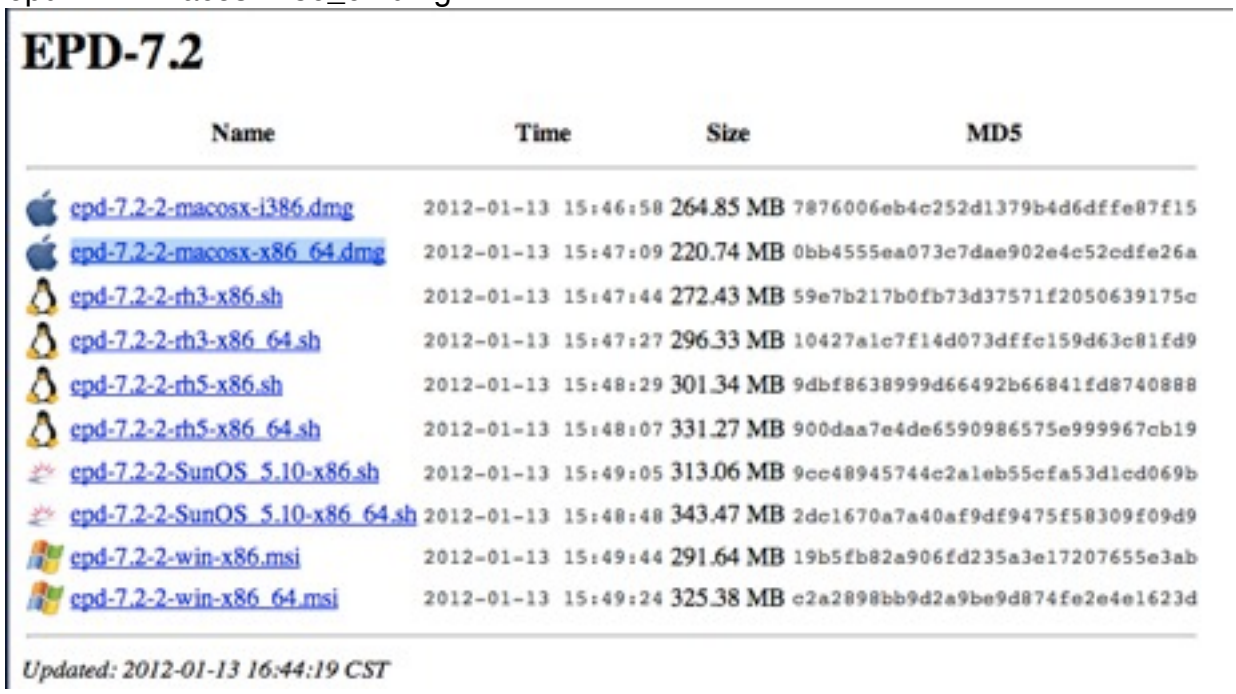
We assume you are running `Mac OX Lion`. This installation places `AUTO` in your home directory (if you want it somewhere else you'll have to change the paths below appropriately). Please note that you shouldn't have any spaces in you username e.g. a username '`your user name`' will not work but '`your_user_name`' will.

Home directory is `/Users/your_user_name`

1. Download `Xcode` from the App Store and *open* Xcode to install it. To do this you will need an Apple account (same as your iTunes account). Open `Xcode` and go to Preferences under the `Xcode` menu. Click on Downloads and install the `Command Line tools`



2. Download Python from:
   http://enthought.com/products/getepd.php
scroll to the bottom of the page and click on the academic button, then enter your email address and follow the link in the email sent to you from enthought. Download the binary: epd-7.2-2-macosx-x86_64.dmg



EPD-7.2

Name	Time	Size	MD5
epd-7.2-2-macosx-i386.dmg	2012-01-13 15:46:58	264.85 MB	7876006eb4c252d1379b4d6dffe87f15
epd-7.2-2-macosx-x86_64.dmg	2012-01-13 15:47:09	220.74 MB	0bb4555ea073c7dae902e4c52cdfe26a
epd-7.2-2-rh3-x86.sh	2012-01-13 15:47:44	272.43 MB	59e7b217b0fb73d37571f2050639175c
epd-7.2-2-rh3-x86_64.sh	2012-01-13 15:47:27	296.33 MB	10427a1c7f14d073dffc159d63c81fd9
epd-7.2-2-rh5-x86.sh	2012-01-13 15:48:29	301.34 MB	9dbf8638999d66492b66841fd8740888
epd-7.2-2-rh5-x86_64.sh	2012-01-13 15:48:07	331.27 MB	900daa7e4de6590986575e999967cb19
epd-7.2-2-SunOS_5.10-x86.sh	2012-01-13 15:49:05	313.06 MB	9cc48945744c2a1eb55cfa53d1cd069b
epd-7.2-2-SunOS_5.10-x86_64.sh	2012-01-13 15:48:48	343.47 MB	2dc1670a7a40af9df9475f58309f09d9
epd-7.2-2-win-x86.msi	2012-01-13 15:49:44	291.64 MB	19b5fb82a906fd235a3e17207655e3ab
epd-7.2-2-win-x86_64.msi	2012-01-13 15:49:24	325.38 MB	c2a2898bb9d2a9be9d874fe2e4e1623d

Updated: 2012-01-13 16:44:19 CST

3. Download the gcc-lion.tar.gz and gfortran-lion.tar.gz binaries from:
http://hpc.sourceforge.net/
These will either be downloaded to your downloads folder in ~/Downloads or onto your Desktop. Open the Terminal application in your applications/utilities/ folder and type

```
> cd ~/Downloads
```

or

```
> cd ~/Desktop
```

depending on where the binaries have been downloaded. Next type in the terminal window

```
> sudo tar -xvf gcc-lion.tar -C /.
```

and enter your password. Then type

```
> sudo tar -xvf gfortran-lion.tar -C /.
```

4. Download AUTO07p (version 0.9) from:
http://sourceforge.net/projects/auto-07p/files/auto07p/
and in Finder place the /auto/ directory in your home directory.

6. Download the auto.env.sh file and save it in the directory
~/auto/07p/cmds/

Now open the `Terminal` Application in `/Applications/Utilities` and type at the command line

```
> source ~/auto/07p/cmds/auto.env.sh
```

7. You are now ready to install AUTO. In the terminal window now type

```
> cd ~/auto/07p/
> ./configure
```

(the last line of the output should be

```
************************************************
AUTO has been configured with support for OpenMP
************************************************
```

)
then type in the terminal window

```
> make all
```

8. Testing that AUTO works.

In a terminal window, type

```
> mkdir ~/Desktop/test_auto/
> cd ~/Desktop/test_auto
> auto
```

(you should now get a new prompt: `AUTO>`)

at the new prompt type

```
AUTO> copydemo('abc')
AUTO> load(equation='abc')
AUTO> load(constants='abc')
AUTO> run
AUTO> save('abc')
AUTO> plot('abc')
```

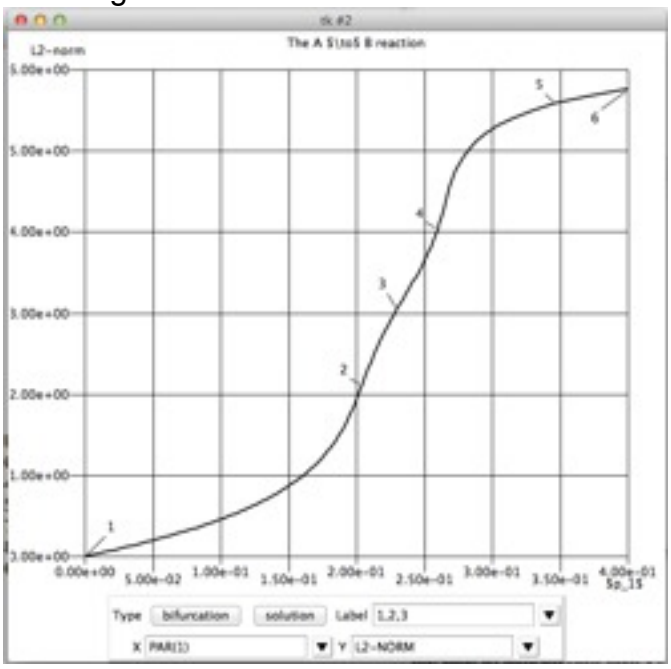
You should now get the output

```
Python 2.7.1 (r271:86832, Jul 31 2011, 19:30:53)
[GCC 4.2.1 (Based on Apple Inc. build 5658) (LLVM build 2335.15.00)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
(AUTOInteractiveConsole)
AUTO> copydemo('abc')
Copying demo abc ... done
AUTO> load(equation='abc')
Runner configured
<_=AUTOSolution instance at 0x10c067c50>
AUTO> load(constants='abc.1')
Runner configured
<_=AUTOSolution instance at 0x10c067c90>
AUTO> run
gfortran -fopenmp -O -c abc.f90 -o abc.o
gfortran -fopenmp -O abc.o -o abc.exe /Users/mas1dl/auto/07p/lib/*.o
Starting abc ...

  BR    PT  TY  LAB    PAR(1)        L2-NORM         U(1)          U(2)          U(3)
   1     1  EP    1   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   1    63  HB    2   2.04185E-01   2.10511E+00   5.87753E-01   5.56043E-01   1.94342E+00
   1    77  HB    3   2.29836E-01   3.04038E+00   7.99139E-01   6.89422E-01   2.85131E+00
   1    93  HB    4   2.59957E-01   4.03230E+00   9.26115E-01   6.16841E-01   3.87573E+00
   1   110  HB    5   3.46208E-01   5.57947E+00   9.88177E-01   2.27518E-01   5.48654E+00
   1   112  UZ    6   4.00000E-01   5.75762E+00   9.91445E-01   1.75932E-01   5.66888E+00

 Total Time    0.139E-01
abc ... done
<_=bifDiag instance at 0x10c0072d0>
AUTO> save('abc')
Saving fort.7 as b.abc ... done
Saving fort.8 as s.abc ... done
Saving fort.9 as d.abc ... done
AUTO> plot('abc')
Using plain TkInter for plotting. You can obtain better quality graphics
using matplotlib (http://matplotlib.sf.net).
Created plot
<graphics.windowPlotter.WindowPlotter2D instance at 0x10c309998>
```

and a figure



If you have, then you've successfully installed AUTO!