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Installation of GDL

The software package *GNU Data Language* (GDL) can be downloaded from the project's homepage . However, it is recommend to use the package manager of your Linux/Mac/BSD. On Ubuntu/Debian and their derivatives just execute:

```
sudo apt-get install gnudatalanguage
```

IDL Astro Library

For the use in the lab courses the IDL Astro Library is also required. It can be downloaded at:

http://idlastro.gsfc.nasa.gov/homepage.html

In the next step the following directory

```
/home/user/opt/gdl-astrolib/astron/
```

should be created. Here and in the following, user should be replaced by the name of the corresponding user account. Afterwards the archive (astron) can be unpacked there. Furthermore, it is necessary to change the following lines of the file readfits.pro in the directory pro:

Additionally create a file *fitsconvert.pro* with the following content:

```
function fitsconvert,image
if n_elements(image) eq 0 then begin
  print,'Usage: converted_image=fitsconvert,original_image'
  return,0
endif
erg=(long(image)+65536) mod 65536
return,erg
end
```

in the directory /home/user/opt/gdl-astrolib/.

Additional routines for the lab course

For the astrophysical lab course (especially for C7 and N2) the following routines are additionally required and should also be placed in /home/user/opt/gdl-astrolib/: correl_images.pro, newremove.pro, newsrcor.pro, la_cosmic.pro, mxaddpar.pro, and datatype.pro (all can be found in our SVN).

Start-up script

To use the *AstroLib*, create an additional start-up script that exports the paths of the libraries. This script can e.g. be saved as hidden file in the home directory (e.g. \$HOME/.gdl_startup). If the directory astron and the file *fitsconvert.pro* are placed in /home/user/opt/gdl-astrolib, the start-up script would look like:

The first line contains the link to the executable gdl file. The second/third line contains the path to the .pro files in the astron directory and the file fitsconvert.pro (adjust paths as needed).

Is the start-up script located in the directory /home/user/, one can prepare it for the usage in the Bash shell by adding the following line

```
export GDL_STARTUP=/home/user/.gdl_startup
```

to the .bashrc script in the home directory.

Final advice for the usage in the lab course

For the laboratory computer a12, the installation should take place under the pollux account, while the very last step of the setup needs to be executed for the castor account as well. Note that in this case user needs to be replace with pollux instead of castor.

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