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## **How to install and run LINUX version of: bosor4, bigbosor4, hugebosor4, bosor5, panda2, and genopt:**

The tar file is called: `b4bigb4b5p2g.x86_64.tgz` (64-bit [linux Fedora architecture](#)) or `progs_master.tgz` (source files for [any machine](#)), and it is about 700 Mbytes long. This “tar” file contains bosor4, bigbosor4, hugebosor4, bosor5, panda2, genopt and certain other software (identified below) for the Mandrake operating system.

bigbosor4 is like bosor4 except it works for more shell segments than bosor4. In running panda2 you need both bosor4 and bigbosor4: bosor4 because the panda2 system uses some of the software from bosor4, and bigbosor4 because you can generate bigbosor4 input files (which are the same as bosor4 input files) through three panda2 processors, one called “panel”, another called “panel2” and a third called “panel3”. hugebosor4 is like bigbosor4 except it works for 10 times as many shell segments (2950 shell segments) as bigbosor4.

“genopt” is a program by means of which you can convert a straight analysis of a given structure (or anything else!) into a user-friendly optimization of that structure (or anything else!). If you obtain “genopt” you should also obtain “bigbosor4” and “hugebosor4”, especially if you intend to optimize a shell of revolution or a prismatic panel or shell.

### **How to proceed:**

**Item 1.** Establish a directory that you want to be the PARENT directory of all six computer programs: bosor4, bigbosor4, hugebosor4, bosor5, panda2, and genopt

**Item 2.** Read the contents of `b4bigb4b5p2g.x86_64.tgz` or `progs_master.tgz` into that PARENT directory.

**Item 3.** Type the command:

**tar xvzf b4bigb4b5p2g.x86\_64.tgz** (or **tar xvzf progs\_master.tgz**)

**Item 4.** If everything works all right, the PARENT directory will now contain the “tar” file (which you can now delete if you wish) and several directories, including bosor4, bigbosor4, hugebosor4, bosor5, panda2, and genopt. Here is a list of the files and directories existing after execution of the command, `tar xvf b4bigb4b5p2g.linux.tar`:

List of files created by "build\_archive":

```
-rw-r--r--  1 bush bush 670750720 Apr 2 08:20 b4bigb4b5p2g.x86_64.tar (or progs_master.tar)
drwxr-xr-x  9 bush bush  232 Apr  2 08:13 bigbosor4
drwxr-xr-x  9 bush bush  232 Apr  2 08:13 hugebosor4
drwxr-xr-x  2 bush bush  296 Apr  2 08:13 bin
drwxr-xr-x  9 bush bush  232 Apr  2 08:13 bosor4
drwxr-xr-x  9 bush bush  232 Apr  2 08:13 bosor5
drwxr-xr-x  2 bush bush   48 Jun 29  2001 gawk
drwxr-xr-x  9 bush bush  232 Apr  2 08:13 genopt
-rwxr-xr-x  1 bush bush 4076 Mar  7  2008 install
```

```
drwxr-xr-x  9 bush bush 232 Apr  2 08:13 panda2
drwxr-xr-x  2 bush bush 1072 Apr  2 08:13 plotps
drwxr-xr-x  2 bush bush 1656 Apr  2 08:13 util
drwxr-xr-x  5 bush bush 1264 Jun 29  2001 xgraph
```

The directories, bigbosor4, hugebosor4, bosor4, bosor5, panda2, and genopt contain subdirectories that include the source files, the executable files, the “doc” (documentation) files, and the sample case files for each computer program, bigbosor4, hugebosor4, bosor4, bosor5, panda2, and genopt, respectively. The directories, bin, gawk, plotps, xgraph, and util contain execution scripts (bin). text processing software (gawk), plotting software (plotps and xgraph), and utility routines (util). “install” is the script corresponding to the “install” command. (See the next item).

**Item 5.** You may have to change the permission of “install” (e.g. `chmod 700 install`). Then execute “install”, specifying the entire path to “install”, as follows:

**{path-to-install}/install**

The main role of “install” is to change the home directory name from that used at the facility where the command “...bin/build\_archive” was executed to the home directory name at the facility where David Bushnell’s computer programs are being installed. (See the file, [build\\_archive.session.pdf](#), for details of a “build\_archive” interactive session).

**Item 6.** One of the directories listed above is called “bin”. “bin” will contain a file called “initialize”. If “install” didn’t work properly, you will have to modify “initialize” to give it the proper HOME directory on your system. I think you may also have to modify “install” in an analogous manner, that is, if Step 5 didn’t work properly.

**Item 7.** In order to run any of these programs you first must give the command: **source {path to bin}/initialize.**

**Item 8,** If you want to run any of David Bushnell’s computer programs, you first create a working directory then go that working directory where you want to run the program, then type a command such as:

<b>bigbosor4log</b>	(if you intend to run bigbosor4)
<b>hugebosor4log</b>	(if you intend to run hugebosor4)
<b>panda2log</b>	(if you intend to run panda2)
<b>bosor5log</b>	(if you intend to run bosor5)
<b>bosor4log</b>	(if you intend to run bosor4)
<b>genoptlog</b>	(if you intend to run genopt)
	(Note: you must <b>always</b> run GENOPT from a directory called <home directory>/ <b>genoptcase</b> )

The purpose of each of these commands is to activate the set of commands that is relevant to the particular computer program you intend to run. Each of these “xxxlog” commands generates a screen that lists the set of activated commands with definitions of what each activated command does.

**Item 9.** You may want to create yourself a “tar” file analogous to those named here at some time after you have

installed and possibly used one or more of David Bushnell's computer programs at your facility. You would want to do this should you intend to create a CD containing one or more of Bushnell's programs that you wish to port to another facility. In order to do this, please first read the file called "build\_archive.session.pdf" that is located in each of the directories ...bigbosor4/doc and ...panda2/doc and ...genopt/doc and bosor4/doc and bosor5/doc. Or you can simply pass along all of Bushnell's computer programs by transmitting the entire file, b4bigb4b5p2g.x86\_64.tar or progs\_master.tar , to your colleagues.

**Item 10.** If the file is called **progs\_master.tgz**, then follow the same directions up through Item 4 (except using the name "progs\_master.tgz" instead of one of the other two names given above). There will be an additional file to those listed under Item 4. This file is called "READ\_ME\_FIRST" (written by Dr. Frank Weiler in 2012). Do that, and follow the directions therein.