

We no longer use BACI or C-- in this course. BACI stands for Ben-Ari Concurrency Interpreter. It is a concurrency simulator designed as an educational tool. It has three languages: a Pascal subset with extensions for concurrency, a C subset called C-- with extensions for concurrency, and a PCODE assembly language to which Pascal and C-- programs are translated. The PCODE virtual machine then executes the object programs.

We will use the C-- compiler with the PCODE interpreter to execute concurrent programs. In an undergraduate research project, Ashley Broadwell developed a plugin to execute the BACI compiler and simulator in the NetBeans IDE.

Installing the BACI plugin

1. Download the BaciBeans plugin.
<http://www.cslab.pepperdine.edu/warford/cosc450/BaciBeans.nbm>
2. Startup NetBeans, and select Tools → Plugins.
3. Under the Downloaded tab, click Add Plugins ...
4. Navigate to your downloaded BaciBeans plugin, and click Install. We have not yet signed the plugin, so disregard the security warning and accept the plugin.

Using the BACI system

Here is the documentation for C--.

http://inside.mines.edu/fs_home/tcamp/baci/

CAUTION: The identifier `p` is a reserved word in the C-- language, because it is the name of a semaphore method. Therefore, every program in our text, *Principles of Concurrent and Distributed Programming* that uses `p` to name a process must be renamed in order to be executed by C--.

Here is how to compile and run a C-- program.

1. In NetBeans, select File → New Project or click the New Project toolbar icon.
2. Select the C– option and name your project the name you want for your C-- source file. A file with the required `.cm` file extension will be created, which you can edit as you would any source file in NetBeans.
3. To compile the program, you must select the project node in the Projects tab. Then choose Run → Run or click the appropriate icon on the toolbar, which will compile and execute your program. The output will appear in the NetBeans Output window.
4. To use the debugger, select Debug → Debug and follow the prompts on the output window.