Ada Programming Language

Basic Components

- <program_name>.adb – an Ada program have the extension .adb
- <program_name.ads – Ada packages have the extension .ads
- Includes:
  - ‘with’ – the ‘with’ clause declares that this program requires access to the package being included. This makes the package visible to the program, but does not make its contents directly visible.
  - ‘use’ – the ‘use’ clause makes the contents of the package visible to the program.

Installing Ada on the CIMS Cluster

- Ada is installed on the following NYU servers (you must use one of these servers to use ADA):
  - **courses1.cs.nyu.edu**
  - **courses2.cs.nyu.edu**

Installing Ada on the CIMS Cluster

- Check which shell running in: '**echo $HELL**'
  (on courses1.cs.nyu.edu, running bash shell)

- Set path environment variable for Ada:

  PATH=/usr/local/pkg/gnat/bin:$PATH

  - Verify that the path is properly set (the directory we added should be added to the beginning of the $PATH environment variable: '**echo $PATH**'

Installing Ada on the CIMS Cluster

- Set the following environment variables:
  - GCC_EXEC_PREFIX=/usr/local/pkg/gnat/lib/gcc-lib/sparc-sun-solaris2.8/3.2.3/
  - ADA_INCLUDE_PATH=/usr/local/pkg/gnat/lib/gcc-lib/sparc-sun-solaris2.8/3.2.3/adainclude:/usr/local/pkg/gnat/sources/gnat-gap-1.0.0-src/src
  - ADA_OBJECTS_PATH=/usr/local/pkg/gnat/lib/gcc-lib/sparc-sun-solaris2.8/3.2.3/adalib
  - C_INCLUDE_PATH=/usr/local/pkg/gnat/lib/gcc-lib/sparc-sun-solaris2.8/3.2.3/include

- Shortcut: you can create a file (env-vals) in your home directory and run all of these commands at once by running the following command on the file env-vals: '**source env-vals'**

Compiling and Running an Ada Program

- Compilation – compile an Ada program with the following command: '**gnatmake <program_name>.adb**'

  Ex: gnatmake hello.adb

** gnatmake invokes all the required compilation, binding and linking tools in the correct order

- Execution – run an Ada program with the following command: './<program_name>

  Ex: ./hello