Compiling and running MPI programs created with PG Fortran 77, PG Fortran 90, PG C and PG C++

Compile Fortran Program with MPI

```
pgf77 -o progname  progname.f -lmpich -Mextend
pgf90 -o progname  progname.f -lmpich -Mextend
```

`pgf77` : invoke the Fortran 77 compiler, assembler, and linker with options derived from the command line arguments
`pgf90` : invoke the Fortran 90 compiler, assembler, and linker with options derived from the command line arguments

`-o` means that the executable will be called progname
`progname.f` is the Fortran source module
`-lmpich` pulls in the MPI library
`-Mextend` allows 132 character lines

Compile C or C++ Program with MPI

```
pgcc -o progname  progname.c -lmpich
pgCC -o progname  progname.c -lmpich
```

`pgcc` : invokes the C compiler, assembler, and linker with options derived from the command line arguments.
`pgCC` : invokes the C++ compiler, assembler, and linker with options derived from the command line arguments.

`-o` means that the executable will be called progname
`progname.c` is the C source file
`-lmpich` pulls in the MPI library

Run an MPI program

```
mpirun -np n progname
mpirun –nolocal –np n progname
```

`-np n` : allocate n nodes
`progname` : this is the name of the executable, which must be in the working directory
`-nolocal` : do not allocate the head node for an mpi program