

How to access the Numerical Recipes library

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Context

The numerical subroutines from the book "Numerical Recipes" by William Press, et al. are installed on Athena. There are approximately 200 routines, which cover a large range of subjects. The source code for the routines are available, and the book documents and explains the mathematics behind the routines.

Steps

Both C and Fortran versions are available in the "recipes" locker. The source code is in the directory `/mit/recipes/src`

To use the libraries from your C program, you'd type:

```
attach recipes
cc filename `athdir /mit/recipes lib`
```

To use the libraries from your Fortran program, you'd type:

```
attach recipes
add -f gnu
g77 -o file file.f -L`athdir /mit/recipes lib` -lrecipes_f
```

The layout of the recipes locker is as follows:

The src directory has 2 subdirectories, one for C and one for fortran:

`src/recipes_c-ansi` : The Ansi-C version

`src/recipes_c-kr` : The K&R C version

`src/recipes_f` : The fortran version

Each of these subdirectories contain the source for Numerical Recipes and the source for the demo/example programs.

- The NR sources are in
`src/recipes_{c,f}/recipes`
- The demo/example sources are in
`src/recipes_{c,f}/demo/src`

Due to a conflict with `libm.a`, there were 2 changes made in the Numerical Recipes "C" sources:

1. `erf` has been renamed `erf_nr`
2. `erfc` has been renamed `erfc_nr`