CS2720 Practical Software Development

Archival Tutorial Spring 2011

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We would like to make tested libraries and classes available for use without having to move them into the current working directory and recompile them each time we need to use them.

This can be done using the **ar** command and appropriate compiler and linker switches.

- compile the library or class to obtain the `.o` file

- create an archive and put the `.o` file into it

  ```
  ar -r libname.a file.o
  ```

- create/update the index for the archive

  ```
  ar -s libname.a
  ```

- can add more files to the archive

  ```
  ar -r libname.a xxx.o
  ```

  after each add, update the index using the `-s` option

- if `file.o` is added to the archive again, it will overwrite the previous version.

- create a library directory and place the archive in it

- create a header directory and place the `.h` files in it

- when you compile, use the **-I** switch to force the compiler to look in your header directory for the include files.

- when you link, use the **-L** switch to force the linker to look in your library directory for the archive

- when linking, also use `-lname` to tell the linker to look for an archive named `libname.a`

- you can use the `-t` switch to get a list of files in the archive, `ar -t libname.a`

- you can use the **nm** command to list the names of functions in the archive

  - `nm -s libname.a` – list names of functions in the archive

  - `nm -s -C libname.a` – demangle the names