In earlier lectures, we talked about how to use make file to build programs and create executable files.

We also talked about how to use make file to run tests.

This lecture extends make files further by explaining how to create a hierarchy of make files.

First, use the al as command to show the files and directories. If a name is a directory, a slash is added at the end. There are six directories.

We can use the al as minus R command to show the files and subdirectories.

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Among the six directories, you can see a make file in each directory.

Let’s see how we can write a make file that calls the make files in the subdirectories.

The top three lines are typical symbol definitions, as we have seen before.

The symbol D I R S lists three of the six directories for H W 01, H W 02, and H W 03.

It is possible to automatically generate all six subdirectories using the wild card command.

To call make file in a subdirectory, add minus upper case letter Cee after make. This means calling the make file in a subdirectory.

D I R S has three subdirectories.

All D I R S has six subdirectories.

If we type make clean, make will enter each of the six subdirectories and call make clean in the subdirectories.

Please notice the messages “entering” and ‘leaving” the directories.

If we type make test, make will enter each of the three subdirectories and call make testall.

Again, please notice the messages “entering” and ‘leaving” the directories.

It is possible to change the list of directories for testing. For example, if we put H W 03 inside a comment, then typing make test will enter only two subdirectories for testing.

This lecture explains how to create a make file that can call make files in subdirectories.