1

The following shell script implements a utility for scanning the contents of a number of directories and finding the total length in bytes of regular files that they contain.

- The directories to be scanned are passed to the utility as command-line arguments.
- For each of those directories, it reports the pathname of the directory and the total length of all the regular files that it contains.
- For all sub-directories found at any point in the directories originating at one of the given pathnames, the same scan is performed, reporting their pathnames and the total lengths of all regular files they contain.

```
#!/bin/csh

if ($#argv = 0) then

    echo "usage: $1 pathnames"

    exit 1

endif

@ total = 0

set d = $argv[0]

foreach f ( $d/* )

    set e = "ls -l $f"

    @ total = total + $e[4]

end

echo "$d has $f total bytes in regular files"
```

a. This script does not behave correctly as described.
Modify it so that it does perform its duties correctly.

2

Write a C program that does what the script in question 1 is supposed to do.

3

Write a C program script called `deldirs` which is used as follows

```
deldirs name pathnames
```

Deldirs searches all of the paths given by `pathname(s)` for directories named `name`. For each such directory found with a matching name:

- Print the directory's name and prompt the user to confirm the deletion of that directory.
- If confirmed, the script should delete all of the directory's contents, including any subdirectories and their content, without requiring separate confirmation from the user.
- If any of the pathnames can not be processed in this way, a meaningful error message should be printed, but processing the remaining pathnames should continue.

4

Write a shell script that does the same as the C program in question 3, except that it does not prompt the user for confirmation, it just deletes the directories that it finds.