

Archiving Challenge

This challenge will have you archiving an entire directory (along with the files contained within it) into a single file that you create. Then, you should be able to run an “unarchive” program to expand the archive into a newly created directory that matches the original directory that you archived. Your code should be located in exactly the following location:

[\\cs-data\Students\your_username\cmisc432\final_archive](#)

Inside the folder you MUST have a file named “archive.c” that contains your main method as well as a file named “unarchive.c” that has a main method. Also, you may certainly have additional header files in this directory that are included and used from your respective files. This may help to have each of your different c files include the same structs/functions from a common header file. These two c files, however, are the only ones that are absolutely required. I will fetch your final_archive folder and run the following commands to compile your program:

```
gcc archive.c
gcc unarchive.c
```

Please let me know if you have any libraries that need to be linked in at compile-time and I will update my compilation script accordingly.

Program usage:

To run your code, you should invoke the compiled binary in the following way:

```
./bvArchive directoryToArchive archiveFile.data
./bvUnarchive archiveFile.data
```

Note that the bvArchive command takes two parameters:

- `directoryToArchive`: This argument represents the directory the you wish to archive.
- `archiveFile.data`: This represents the file that you will write the archive to.

Note that the bvUnarchive command takes one parameter:

- `archiveFile.data`: This represents the file that you will expand.

Example invocations:

```
./bvArchive finalProjectFolder final.archive
./bvUnarchive final.archive
```

Note that you should likely run the bvArchive and bvUnarchive commands from different locations; you don’t want bvUnarchive to overwrite the folder that you previously archived. It’s best to get the archive file created from bvArchive, and then to move it to a new directory and expand it there so that you don’t write to a conflicting space.

Submitting your code:

Your code should be submitted to exactly the following location:

[\\cs-data\Students\your_username\cmisc432\final_archive](#)

Inside the folder you MUST have a file named “bvArchive.c” that contains your main method. Also, you may certainly have additional header files in this directory that are included and used from your “bvArchive.c” file but this file is the only code file that is absolutely required. I will fetch your final_archive folder and run the following command to compile your program:

```
gcc bvArchive.cpp
```

Commenting your code:

All code should be submitted as specified above. Your code should be efficient, clear, and **well commented**. This will be taken into account when grading. Please make your code readable and easy to follow.

Write-Ups

Plan-of-Attack Write-up

Within this writeup, you should expound on your problem-solving plan for tackling this archiving challenge. This document should address the following 3 areas outlined in the rubric that you can find on CS-Data in the final folder.

1. Identify Problem
2. Identify Strategies
3. Evaluate Solutions

This will be worth 30% of your grade. Please make sure that you format your paper by labeling each section prior to writing your response. That is, I want 3 sections (each labeled as identified above) and your answers to each written within those sections. Save this file to your final_archive folder with the name "plan_of_attack" with an appropriate file extension.

I want you to complete this plan-of-attack writeup **before** you start writing your code. This is very important. The intention of this document is to show your analytical process as it relates to problem solving before you dive in. If you intend to start coding soon, just write and submit this paper to CS-Data first!

Evaluation Write-up

The final write-up is due on the day of the final as class begins. It should address the following area outlined in the rubric

- Evaluate Outcomes

This will be worth 10% of your final grade. Save this file to your final_archive folder with the name "evaluation" with an appropriate file extension.