# Technical Assessment - Software Engineer II, Packaging

## Requirements:

Write a program that takes a pair of directories as input and writes out three files as output.

- A file named 'common', which contains files that are identical in both the first and second directories.
- Files a_only and b_only, which contains the files that are only in the first directory ('a') and those that are only in the second directory ('b')

A file is considered identical if its contents are byte-for-byte identical (name, permissions, and location don't matter).

Expect that this will be run on very large directory trees (100,000 files).

## Instructions:

- The maximum time we suggest spending on this assignment is four hours.
- Use C or C++. Please tell us which standard compiler (+version) you used.
- Ensure the following tasks exist and are automated via Makefile or another tool of your choice:
    - build
    - clean
    - test
    - run
- Build an executable with an accompanying shared library. The executable has to link against the shared library. You don’t need to upload the binaries.
- Your project should include testing at the level you find appropriate. Be prepared to discuss your testing choices.
- You can use Linux, Windows, or macOS. Please tell us what platform you used.
- You are free to use third-party or external dependencies. If you use a third-party dependency, please provide us with the instructions on where we can find it and how to build it (if possible).
    - Do not use one that will do everything for you. We want to see if you know C or C++.
    - The md5sum utility might be useful.

## Next Steps:

- You have 2-3 working days from the date you receive this to complete this and send us your work. You may submit your work earlier.
- An interview will be scheduled with an engineering team member to review your assessment as a part of your interview panel.

- During that review, you will be asked to walk the interviewer through your project code and discuss your decisions.
- When completed, please send your submission as a GitHub repository to your recruiter.

## Questions?

- If something is unclear or you need additional information, please ask your recruiter when you receive the link to this assignment.