

CMPE 230 Systems Programming
Project 2 (due Nov. 30th)
(Use Python language to implement the project)

In this project, you will implement a makefile generator tool called **generatemakefile** for C language source files. Assume that a directory contains C language source code. The C source code can also be located in the subdirectories. Your program will traverse the directories looking for **.c** and **.h** files. It should examine source files for preprocessor include statements. It should then generate a makefile with appropriate dependencies and actions. If there are errors, it should print them. For example:

- If a file is included but not found, your tool should print error message.
- If an include file is present but not used, your tool should print warning message.

The name of the executable can be taken to be the name of the project directory.

Grading

Your project will be graded according to the following criteria:

Documentation (written document describing how you implemented your project)	12%
Comments in your code	8%
Implementation and tests	80%

Late Submission

If the project is submitted late, the following penalties will be applied:

- 0 < hours late ≤ 24 : 25%
- 24 < hours late ≤ 48 : 50%
- 48 < hours late ≤ 72 : 75%
- hours late > 72 : 100%

Proof of Existence

Before you submit your project, please timestamp (notarize) your project zip file at <https://opentimestamps.org/>. Do **NOT** lose the .ots timestamp file and the submitted project zip file. The .ots timestamp file is a proof that your project zip file existed during the time of submission. If for some reason something went wrong with submission, the .ots file and the corresponding project zip file will prove that your project zip file existed at the time of submission. Only the project zip file that matches the .ots will be accepted. If you show a project zip file that does not match (correspond to) the .ots file, it will NOT be accepted !.