CS 422 - Comment Your Code

You must comment the code you produce. Commenting your code is required in addition to writing standalone programmer's documentation. The two sets of writing —the comments in the code and the programmer's documentation— should complement each other. They should be consistent, but you should not simply copy from one to create the other. They are different and serve two different purposes. For example, the code comments should explain the entire flow of control through all lines of code. On the other hand, the programmer's documentation should provide an overview of that control flow and the design philosophy you used when writing the code.

An essential aspect of engineering —applying math and science to build useful complex products and machines— explains how the products and machines work. The absence of comments in computer code and the lack of programmer's documentation is, arguably, a failure to apply engineering principles to build something useful and, to some extent, a breach of ethics. You must comment your code.

Comments that you must generate:

1. *Header information at the top of the file that describes what the file is*. Header comments must include the name of the file, the purpose or function of the file, the creation date, and the initial authors' names. If the file is part of a larger system, the header comment should briefly describe that system and how this file fits into that system. Lastly, the header might include a list of modifications made to the file.
2. *A comment for every class, method, and function*. The comments should explain the purpose of each function and class and its methods. You must document the arguments received by each function and method and the values they return. Provide similar comments for packages or libraries loaded, explaining their purpose and reasons for including them.
3. *Formatting comments that organize the code and make it easier to read*. For example, comments that create a horizontal line across the source code create a break between code sections, making it easier to move the eyes directly to things like the start of functions.

You will find documentation guidelines for Python at https://developer.lsst.io/v/DM-5063/docs/py_docs.html.