The goal of this (and the next project) is to implement Bitcoin and (part 2)  to build a large simulator to determine its behavior.

As a reference, you can use the original paper: [bitcoin.pdf](https://ufl.instructure.com/courses/357714/files/40476401/download?verifier=wzIb2Jo4RmGTP8CYAnhPmrzCW4Z9pStpFw6lSbEO&wrap=1)

[Actions](https://ufl.instructure.com/courses/357714/assignments/3671057)

 , the extra material at[bitcoint.org. Any other reference is fine as well. (Links to an external site.)Links to an external site.](https://bitcoin.org/en/developer-guide#block-chain)

In part I, you have to accomplish the following goals:

1. Implement enough of the bitcoin protocol to be able to mine bitcoins, implement wallets (enough to get the other goals), transact bitcoins. For mining, make sure you set the threshold low so you can mine very fast (milliseconds to seconds)

2. Write test cases verifying the correctness for each task. Specifically, you need to write unit test (for focused functionality such as correct computation of the hashes) and functional tests (simple scenarios in which a transaction happens between two participants).

When you submit the project, make sure you include a README that explains what functionality is implemented, who to run the tests, etc.