## 3/31:

## Completed:

- Read the HTTP/3 specification to identify the requirements to track and test for
  - Prioritized ensuring the correct errors were raised
  - Identified several errors to test for
  - H3\_NO\_ERROR (0x0100):
    - No error. This is used when the connection or stream needs to be closed, but there is no error to signal.
  - **H3 FRAME ERROR** (0x0106):
    - A frame that fails to satisfy layout requirements or with an invalid size was received.
  - **H3\_SETTINGS\_ERROR** (0x0109):
    - An endpoint detected an error in the payload of a SETTINGS frame.
  - **H3\_REQUEST\_INCOMPLETE** (0x010d):
    - The client's stream terminated without containing a fully-formed request.
  - **H3 MESSAGE ERROR** (0x010e):
    - An HTTP message was malformed and cannot be processed.
- Identified a set of HTTP/3 implementations to test against
  - Implementations within a language / framework
    - Node.js <a href="https://nodejs.org/api/http.html">https://nodejs.org/api/http.html</a>
    - Java HTTP Server class
      <a href="https://docs.oracle.com/javase/8/docs/jre/api/net/httpserver/spec/com/sun/net/httpserver/HttpServer.html">https://docs.oracle.com/javase/8/docs/jre/api/net/httpserver/spec/com/sun/net/httpserver/HttpServer.html</a>
    - Python HTTP server module <u>https://docs.python.org/3/library/http.server.html</u>
  - Standalone
    - Apache HTTP server <a href="https://httpd.apache.org/">https://httpd.apache.org/</a>
    - Nginx <a href="https://www.nginx.com/">https://www.nginx.com/</a>
    - Lightpd https://www.lighttpd.net/

## TODO:

- Install Java HTTP Server and Apache (locally, with a simple Hello World app on top)
  - Write test cases of normal behavior
  - Possibly try to trigger H3 FRAME ERROR
  - Log outputs and look for correctness manually
- Program one set of test cases to run against an implementation