The goal of the project was to develop a command-line tool to analyse Juju debug logs where it took the log file as mandatory argument and a charm as an optional argument when it was available. The tool counts log messages by severity, charms and identifies any duplicate messages and the overall summary of the logs.

Assumptions:
1.
    `controller-0: 01:47:48 INFO juju.worker.apicaller [b97292] "machine-0" successfully connected to "localhost:17070"`

    After looking at the file, the format was assumed to be as follows:
    <CharmName>: <Timestamp> <Severity> juju.<component> <Message>

    Lines with this format were processed while the others were ignored.

2. Four severities were considered: INFO, DEBUG, WARNING and ERROR
3. Empty lines will be ignored

The output includes:
1. Severity Counts
2. Duplicate Messages
3. Severity Proportions
4. Total Messages

Total time spent on this project was about 6 hours.

The main challenge that I faced in this project was that I had never worked with Regular Expressions before. Being able to learn Regex, design it and test it was the most challenging part.

Resources used:
1. https://juju.is/docs/juju/log
2. https://newrelic.com/blog/how-to-relic/extracting-log-data-with-regex
3. https://www.w3schools.com/python/python_regex.asp