Problem statement

Write a program that will ingest log records to determine the overall health of the system. This test is based on OpenTracing. Please refer to the [OpenTracing docs (http://opentracing.io/documentation)](http://opentracing.io/documentation) for an overview of tracing.

- Your program will need to read in the transaction log records in the provided `log-data.json` file to determine the number of failed transactions and the causes of the failure.
- A transaction can span multiple systems; a single trace_id is used for the entire transaction, while a new span_id is used for each logical operation that is performed.
- The log data is not in order as it is aggregated from multiple sources. It will need to be sorted.
- Output should be printed to stdout (standard output)
- Output the failure cause trace in the following format: `- <time> <app> <component> <msg>`. Child spans should be nested.

For example:

```
- 2018-08-26T17:35:39+10:00 svc-app-1 auth.user.Login() starting login for bd5f12d5-130a-4ed3-bf21-0eff55c1a2af
    - 2018-08-27T15:55:33+10:00 svc-app-2 auth.user.AuthCheck() checking auth creds for bd5f12d5-130a-4ed3-bf21-0eff55c1a2af
    - 2018-08-28T00:44:18+10:00 svc-app-2 auth.user.AuthCheck() extracted subject from JWT token
    - 2018-08-28T15:03:50+10:00 svc-app-2 auth.user.AuthCheck() verification of subject in JWT token failed: past expiry date
- 2018-08-28T15:03:50+15:00 svc-app-1 auth.user.Login() auth check provider returned auth failure for bd5f12d5-130a-4ed3-bf21-0eff55c1a2af
- 2018-08-29T11:53:35+10:00 svc-app-1 auth.user.Login() login failed for bd5f12d5-130a-4ed3-bf21-0eff55c1a2af
```

Requirements

- No libraries or frameworks are to be used; only the standard libraries available in the language chosen.
- Please briefly document:

    - your design choices,
    - any assumptions you have made
    - comment on the runtime and memory complexity of your solution

- Please provide the URL to the GitHub repo with your solution.