Ping Feature - Design

Client Workflow

```
Read configuration &
get input
        |
        v
print initial message
        |
        v
For all packets to send  <----------+
        |                           |
        v                           |
Generate a unique                   |
packet                              |
        |                           |
        v                           |
Send the packet                     |
        |                           |
        v                           |
Wait for response                   |
        |                           |
        v                           |
    Got                             |
  response?                         |
```

- For the latest message? — yes → Wait the remaining time
- For the latest message? — no → Store the RTT
- Got response? — yes → For the latest message?
- Got response? — no → Print temp results

Wait the remaining time → Print temp results
Store the RTT → Print temp results
Print temp results → For all packets to send (loop back)
Print temp results → Calculate final results → Print final summary
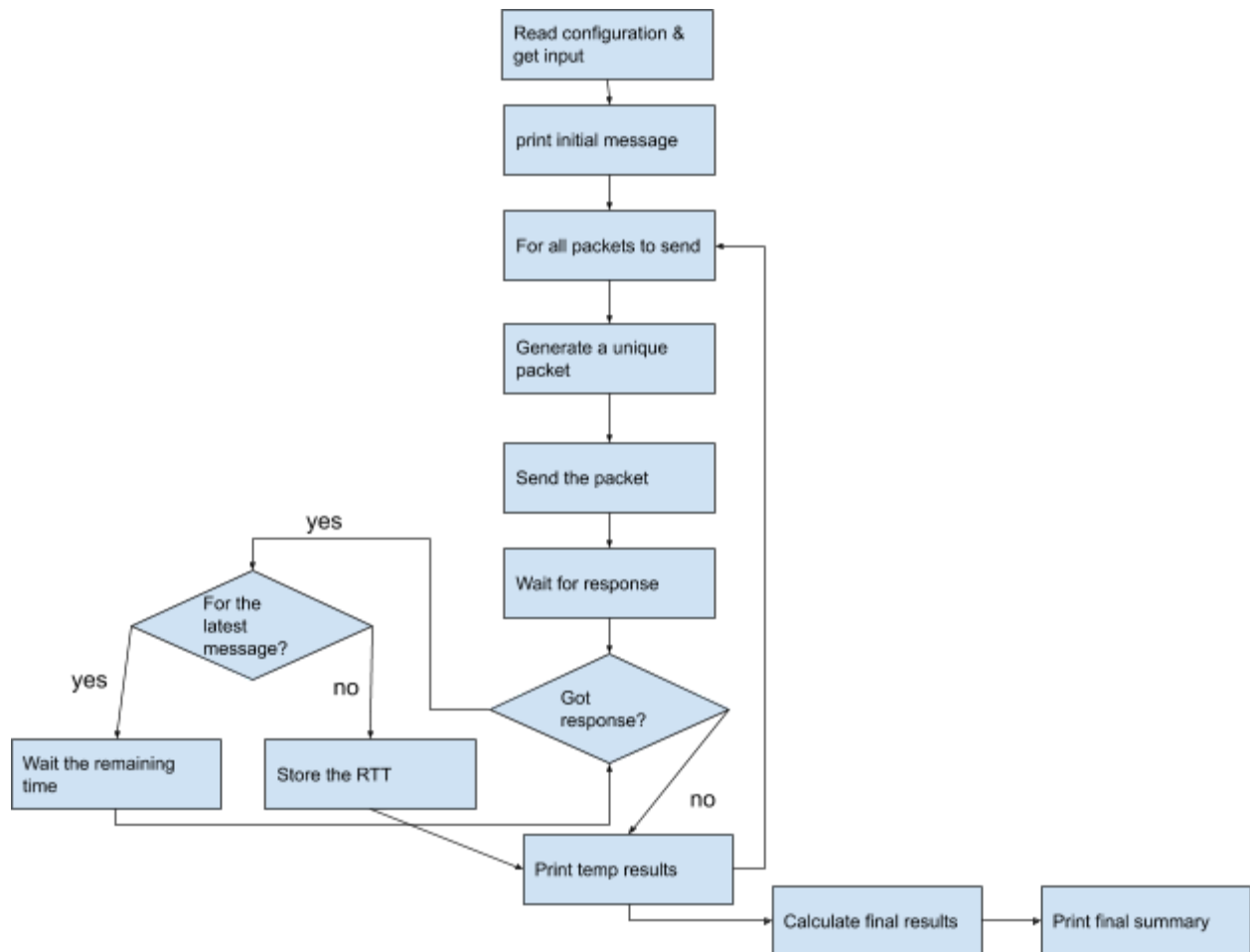
<u>For production:</u>
In order to make a task production ready I would require a few more from the documentation perspective (assuming the task isn't a trivial one).
In this design document:
- Class diagram
- Sequence diagram / DFD
- Test Plan
- Open Issues/questions

Configuration Document:
- The configuration parameters, their usage and the default values

From the QA side:
- Description of the different tests:
  - Test data
  - Test method
  - Test description
  - Expected results
- Stress tests - checking the feature under load (if relevant)
- Endurance tests - letting the feature run for some time