## FIT3155: Lab questions for week 7

## Objectives: Concepts from weeks 6-7

- 1. Implement a Fibonacci heap data structure supporting the following operations:
  - insert
  - min
  - extract-min
  - merge
  - decrease-key
  - delete
- 2. Recall Dijkstra's shortest path algorithm from FIT2004? Improve Dijkstra's algorithm using a Fibonacci heap. Reason what the resultant complexity of this algorithm when Fibonacci heap is used.
- 3. If you have any lab exercises still pending from previous weeks' lab, complete them.

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