Marking Sheet for COMP261 2015 Assignment 5: B+ Trees.

Student:

Mark:

Marked by:

Stage 1: out of **75**: In-memory B+ tree

Program implements a B+ tree with internal nodes and leaf nodes

- Find method which returns value associated with a key?
- Put method which adds a key value pair to the tree?
- IterateAll method which uses links between the leaves to traverse all the leaves.
- Does the program have both the IP – Hostname and the Hostname – IP trees?
- Does it load all the data in the host-list.txt file?
- Does it pass the test method on the test-list.txt file? (or on the test-list-reversed.txt file if they reversed their test method).
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Stage 2: additional **15** (up to 9**0**): Stores trees in block files

- Does it read the blocks from the file as required?
- Does it write blocks to the file when it modifies them?
- Does it use the block indexes as the pointers to the children
- It should NOT build the whole tree internally

Stage 3: additional **10** (up to **100**) Deletion, or multiple names per IP or separate data blocks.

(any one is sufficient)

- Implements deletion in the B+ tree properly (in-memory tree only is just fine).
- Allows multiple names per IP. Must explain how leaves with multiple entries for the same key can work. Just storing a pointer to a list of names is not sufficient – only gets 5 marks, since the names aren't really in the B+ tree at that point.
- Make the leaves stored an index to a data block containing the value instead of the value, and have both trees stored in the same file.