COMP20003 2018

Assignment 1

User name: akiraw

Stage 1 (7 marks possible) 6/ 7

Inserts Correctly (1.5) 1.5

+ Inserts into the right position based on key (including duplicates) (1) 1

+ Is able to store maximum key/data lengths (0.5) 0.5

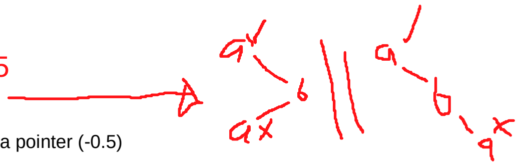
- Incorrect amount of space allocated (-0.5)

Searches Correctly (2.5) 2

+ Finds right position based on key (1) 1

+ Is able to handle keys with more than one word (0.5) 0.5

+ Prints all required data entries for found keys (1) 0.5



- Valgrind errors (-0.5)

- Structures passed by data structure value rather than as a pointer (-0.5)

Finds Data Fields (2) 1.5

+ Finds duplicate database keys (1) 1

+ Finds correct number of comparisons (1) 1

- Data fields not stored reasonably efficiently space-wise (e.g. 512 bytes for each value) (-0.5) -0.5

Correctness (0.5) 0.5

+ All data freed (0.5) 0.5

If Fails Automatic Testing (4.5)

+ BST appears to have correct logic (1.5)

+ Data item creation looks ok apart from inserting same key (1)

+ Everything looks like it should work apart from small error (1) not mentioned by valgrind (1)

+ Data structure incorrectly declared (too much space, unreasonable static size declaration, etc.) (-1)

Makeable (1) 0.5

+ Project can be compiled using ‘make’ commands (0.5) 0.5

+ Makefile is well structured (using object files) (0.5) 0

- Automatic fixing required (-0.25)

- Makefile file is not named correctly to be used by ‘make’ (-0.5)

Following the Specification

- ‘./prog input output < keys’ not followed (-1)

- Extra debugging printfs left in (-0.25)

Stage 2 (2 marks possible) 1.5/ 2

+ Find not worse than stage 1 (0.5) 0.5

+ Improves computational efficiency (comparisons) over stage 1 when duplicates present (1.5) 1.5

- Duplicate nodes are stored inefficiently (e.g. with a separate copy of the key) (-0.5) -0.5

Programming Style (2 marks possible) 1.75/ 2

Code Safe

- Did not check return value of mallocs (-0.25)

- Did not check return value of file opens (-0.25)

Code Self-Documenting

- Functions poorly named (not representative of action performed) (-0.5)

- Variables poorly named (not representative of meaning of values contained) (-0.25)

Code Well Documented

- Insufficient commenting (-0.5)

Consistency

- Indentation inconsistent (-0.5)

- Bracket placement inconsistent (-0.25)

- Lots of unnecessary blank space (-0.25)

Modularity

- Used Headers and Source files incorrectly (-0.25)

- Code not split up into separate files sensibly (-0.25)

- Print statements inside library functions (-0.25) -0.25

- BST logic included outside BST code (-0.25)

Experiments (4 marks possible) 3.5/ 4

Systematic experimentation (1) 1

Appropriate scale – reasonable base size and sensible size range (1) 1

Breadth of experimentation – at different cases, random, sorted, duplicates (1) 0.5

Good comparison with theory, explanation, Plots/table, discussion (1) 1

TOTAL 12.75/15