

Assignment 4: B+ Tree Implementation (Documentation)

Group Members:

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Overview

This documentation outlines the comprehensive approach our team adopted to conquer the B+ tree assignment. WhatsApp served as our primary communication channel, ensuring effective coordination among team members.

Process Summary:

- **Establishing Communication:** At the project's onset, we formed a WhatsApp group. This platform facilitated instant messaging, resource sharing, and continuous discussions, ensuring everyone was on the same page.
- **Understanding the Task:** Through an extensive virtual meeting, we collectively dissected the assignment guidelines, requirements, and expectations. This allowed us to build a cohesive understanding of the task's scope and intricacies.
- **Task Allocation:** We divided the assignment tasks fairly among team members, considering their individual strengths and expertise:

B-tree functions, Access functions, Index Access functions:

- **Anjali Asnani:** B-tree Index (create, destroy, open & close), Documentation
- **Janki Thakar:** getNumEntries, getKeyType, getNumNodes functions
- **Krishna Panchal:** insertKey, deleteKey functions
- **Shreya Padaganur:** openBtree, closeBtree, deleteBtree functions
- **Individual Work:** Each member diligently worked on their designated task, leveraging their unique skills and knowledge to ensure quality output.
- **Collaborative Review:** We reconvened on WhatsApp regularly, engaging in detailed discussions to offer constructive feedback and refine sections of the assignment. This collaborative approach ensured consistency and coherence across the entire project.

- **Finalizing the Assignment:** As a team, we consolidated our individual contributions and performed a comprehensive review. Through this process, we detected errors and inconsistencies, rectifying them collectively to enhance and refine the assignment prior to submission.

```
janki@janki-VirtualBox: ~/Downloads/Assignment_4-ADO
[test_assign4_1.c-test b-tree inserting and search-L169-10:57:52] OK: expected true: entry was deleted, should not find it
[test_assign4_1.c-test b-tree inserting and search-L174-10:57:52] OK: expected true: did we find the correct RID?
[test_assign4_1.c-test b-tree inserting and search-L169-10:57:52] OK: expected true: entry was deleted, should not find it
[test_assign4_1.c-test b-tree inserting and search-L174-10:57:52] OK: expected true: did we find the correct RID?
[test_assign4_1.c-test b-tree inserting and search-L174-10:57:52] OK: expected true: did we find the correct RID?
[test_assign4_1.c-test b-tree inserting and search-L187-10:57:52] OK: finished test

[test_assign4_1.c-random insertion order and scan-L241-10:57:52] FAILED: expected <8> but was <6>: number of entries in btree
janki@janki-VirtualBox: ~/Downloads/Assignment_4-ADO$ ./test_expr
[test_expr.c-test value serialization and deserialization-L54-10:57:53] OK: expected <10> and was <10>: create Value 10
[test_expr.c-test value serialization and deserialization-L55-10:57:53] OK: expected <5.300000> and was <5.300000>: create Value 5.3
[test_expr.c-test value serialization and deserialization-L56-10:57:53] OK: expected <Hello World> and was <Hello World>: create Value Hello World
[test_expr.c-test value serialization and deserialization-L57-10:57:53] OK: expected <true> and was <true>: create Value true
[test_expr.c-test value serialization and deserialization-L58-10:57:53] OK: expected <true> and was <true>: create Value true
[test_expr.c-test value serialization and deserialization-L60-10:57:53] OK: finished test

[test_expr.c-test value comparison and boolean operators-L72-10:57:53] OK: expected true: 10 = 10
[test_expr.c-test value comparison and boolean operators-L73-10:57:53] OK: expected true: 9 != 10
[test_expr.c-test value comparison and boolean operators-L74-10:57:53] OK: expected true: Hello World = Hello World
[test_expr.c-test value comparison and boolean operators-L75-10:57:53] OK: expected true: Hello Worl != Hello World
[test_expr.c-test value comparison and boolean operators-L76-10:57:53] OK: expected true: Hello Worl != Hello Wor
[test_expr.c-test value comparison and boolean operators-L79-10:57:53] OK: expected true: 3 < 10
[test_expr.c-test value comparison and boolean operators-L80-10:57:53] OK: expected true: 5.0 < 6.5
[test_expr.c-test value comparison and boolean operators-L83-10:57:53] OK: expected true: t AND t = t
[test_expr.c-test value comparison and boolean operators-L84-10:57:53] OK: expected true: t AND f = f
[test_expr.c-test value comparison and boolean operators-L86-10:57:53] OK: expected true: t OR f = t
[test_expr.c-test value comparison and boolean operators-L87-10:57:53] OK: expected true: f OR f = f
[test_expr.c-test value comparison and boolean operators-L90-10:57:53] OK: expected true: !f = t
[test_expr.c-test value comparison and boolean operators-L92-10:57:53] OK: finished test

[test_expr.c-test complex expressions-L105-10:57:53] OK: expected true: Const 10
[test_expr.c-test complex expressions-L109-10:57:53] OK: expected true: Const 20
[test_expr.c-test complex expressions-L113-10:57:53] OK: expected true: Const 10 < Const 20
[test_expr.c-test complex expressions-L117-10:57:53] OK: expected true: Const true
[test_expr.c-test complex expressions-L122-10:57:53] OK: expected true: (Const 10 < Const 20) AND true
[test_expr.c-test complex expressions-L124-10:57:53] OK: finished test
janki@janki-VirtualBox: ~/Downloads/Assignment_4-ADO$
```

Conclusion

Our team's approach relied on effective utilization of WhatsApp as a communication tool, fostering seamless interaction, task distribution, and collaborative refinement. Beyond meeting the assignment's technical requirements, this experience significantly bolstered our teamwork, problem-solving capabilities, and emphasized the pivotal role of clear communication in achieving shared objectives.