Group 1

Zhaoyin Qin

Yue Sun

Hao Yuan

B+ Tree Design:

From the implementation point of view, we decided to initialize the index file as a leaf-node which assumes there are not any children. This is an understandable design because it is possible that this node can full after first a few insertions. By setting it up as a leaf node, we save our cost for traversal. During insertion, we handle the process differently depending on if we insert at a leaf node or a non-leaf node.

In scanNext method, the scan starts from the "current page" which is set by startScan method. The scan traverses the leaf node until reach the key value since the value in leaf nodes are sorted. In endScan method, variables that related to scanning are set back to the default values.

When duplicate keys appear, overflow pages are considered to use. The leaf node contains a page or any other data structure that holds duplicated records.