package com.twitter.search.core.earlybird.index;

import java.io.IOException;

/\*\*

\* An interface for mapping the doc IDs in our indexes to the corresponding tweet IDs.

\*/

public interface DocIDToTweetIDMapper {

/\*\* A constant indicating that a doc ID was not found in the mapper. \*/

int ID\_NOT\_FOUND = -1;

/\*\*

\* Returns the tweet ID corresponding to the given doc ID.

\*

\* @param docID The doc ID stored in our indexes.

\* @return The tweet ID corresponding to the given doc ID.

\*/

long getTweetID(int docID);

/\*\*

\* Returns the internal doc ID corresponding to the given tweet ID. Returns ID\_NOT\_FOUND if the

\* given tweet ID cannot be found in the index.

\*

\* @param tweetID The tweet ID.

\* @return The doc ID corresponding to the given tweet ID.

\*/

int getDocID(long tweetID) throws IOException;

/\*\*

\* Returns the smallest valid doc ID in this mapper that's strictly higher than the given doc ID.

\* If no such doc ID exists, ID\_NOT\_FOUND is returned.

\*

\* @param docID The current doc ID.

\* @return The smallest valid doc ID in this mapper that's strictly higher than the given doc ID,

\* or a negative number, if no such doc ID exists.

\*/

int getNextDocID(int docID);

/\*\*

\* Returns the largest valid doc ID in this mapper that's strictly smaller than the given doc ID.

\* If no such doc ID exists, ID\_NOT\_FOUND is returned.

\*

\* @param docID The current doc ID.

\* @return The largest valid doc ID in this mapper that's strictly smaller than the given doc ID,

\* or a negative number, if no such doc ID exists.

\*/

int getPreviousDocID(int docID);

/\*\*

\* Returns the total number of documents stored in this mapper.

\*

\* @return The total number of documents stored in this mapper.

\*/

int getNumDocs();

/\*\*

\* Adds a mapping for the given tweet ID. Returns the doc ID assigned to this tweet ID.

\* This method does not check if the tweet ID is already present in the mapper. It always assigns

\* a new doc ID to the given tweet.

\*

\* @param tweetID The tweet ID to be added to the mapper.

\* @return The doc ID assigned to the given tweet ID, or ID\_NOT\_FOUND if a doc ID could not be

\* assigned to this tweet.

\*/

int addMapping(long tweetID);

/\*\*

\* Converts the current DocIDToTweetIDMapper to a DocIDToTweetIDMapper instance with the same

\* tweet IDs. The tweet IDs in the original and optimized instances can be mapped to different

\* doc IDs. However, we expect doc IDs to be assigned such that tweets created later have smaller

\* have smaller doc IDs.

\*

\* This method should be called when an earlybird segment is being optimized, right before

\* flushing it to disk.

\*

\* @return An optimized DocIDToTweetIDMapper with the same tweet IDs.

\*/

DocIDToTweetIDMapper optimize() throws IOException;

}