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/**
 * methods for retrieving a range of rows of weather station observations from an HBase table
 * here we are interested in a Map<ObservationTime, ObservedTemp> result
 * we will use a NavigableMap<Long, Integer> because it is sorted and has a descendingMap()
method
 * so we can access observations in both ascending and descending order
 */
public NavigableMap<Long, Integer> getStationObservations(HTable table, String stationId,
long maxStamp, int maxCount) throws IOException {
    byte[][] columns = {Bytes.toBytes("data:airtemp")};
    byte[] startRow = RowKeyConverter.makeObservationRowKey(stationId, maxStamp);
    RowResult res = null;
    NavigableMap<Long, Integer> resultMap = new TreeMap<Long, Integer>();
    byte[] airtempColumn = Bytes.toBytes("data:airtemp");
    // scanners are like cursors in a traditional database. scanners return rows in order
    Scanner s = table.getScanner(columns, startRow);
    int count = 0;
    try {
        while ((res = s.next()) != null && count++ < maxCount) {
            byte[] row = res.getRow();
            byte[] value = res.get(airtempColumn).getValue();
            Long stamp = Long.MAX_VALUE - Bytes.toLong(row, row.length -
Bytes.SIZEOF_LONG, Bytes.SIZEOF_LONG);
            Integer temp = Bytes.toInt(value);
            resultMap.put(stamp, temp);
        }
    } finally {
        s.close();
    }
    return resultMap;
}

/**
 * Return the last ten observations
 */
public NavigableMap<Long, Integer> getStationObservations(HTable table, String
stationId) throws IOException {
    return getStationObservations(table, stationId, Long.MAX_VALUE, 10);
}

```