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//*****
// Exercise 3: Text2Binary & Hashing with Linear Probing   WuYH@ICE.CYCU
//*****

int main(void)
{
    vector<studentType>    cSet;           // set of output records
    string                 fileID;         // file identifier
    string                 quitOrNot;      // stop the program or not
    int                    stNo;           // number of students

    do
    {
        if ((stNo = Text2Binary(fileID)) == 0) // transform a text file into a binary file
            return 0;                          // stop the program if nothing is obtained

        if (!getBinRecords(stNo, fileID, cSet)) // get records from a binary file
            return 0;                          // stop the program if nothing is obtained

        try
        {
            int    htSize = leastPrime((float)cSet.size() * 1.2);
                    // hash table size is the minimum prime > (data size) * 1.2
            hashTable    htObj(htSize); // initialize an object of hash table

            if (htObj.existed()) // if a hash table exists, ...
            {
                for (int i = 0; i < cSet.size(); i++)
                    htObj.insertOne(cSet[i]); // insert each record into hash table

                htObj.outputAll(fileID); // output hash table on the screen & in a file
                htObj.failedCompAVG(); // average number of comparisons for unsuccessful search
                htObj.successCompAVG(); // average number of comparisons for successful search
                htObj.clearAll(); // release the space allocated to the hash table
            } // end inner-if
        } // end try

        catch (std::bad_alloc& ba) // unable to allocate dynamic space
        {
            std::cerr << endl << "bad_alloc caught: " << ba.what() << endl;
        } // end catch

        cSet.clear(); // release the space of all records
        cin >> quitOrNot;
        if (!quitOrNot.compare("0")) // press 0 to stop execution
            return 0;
    } while(true); // end do-while
} // end main

```

