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/*
Filename: p8.h
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Date: 8 March 2023
Description: The header file for p8
*/
#ifndef __P8_H
#define __P8_H

//*****
class intList {
private:
    int *a;
    int listCapacity;
    int listSize;
    int heapSize;
public:
    //Constructors and Destructors
    intList (int listCapacity = 100); //Zach
    ~intList (); //Zach
    //Public Functions
    bool insert (int key); //parker
    bool add (int key); //parker
    bool insertAt (int index, int key); //parker
    bool deleteAt (int index, int &key);
    void clear(); //Zach
    void printIt(int n) const; //Zach
    int getIndex(int key) const;
    int readAt(int index, int &key) const; //parker
    int capacity() const; //Zach
    //Sorting Functions
    void bubbleSort();
    void selectionSort();
    void insertionSort();
    //Sorting Check
    bool isSorted() const;
    //Program 6 Functions
    void heapify(int index);
    void swap(int &x, int &y);
    int left(int index) const;
    int right(int index) const;
    //New Functions
    void heapSort();
    void buildHeap();
};

#endif
```