CS110: Computer Programming Lab
Department of CSE
IIT, Guwahati

Module 04 Stage 02 Exercise 04

Assessment exercises are designed to help us check if the student has learned the basics of the topics included in the drill instructions. However, a drill assessment is not a comprehensive assessment. A fuller and complete assessment aimed at determining the course grades will be done through CS110 examinations.

It is expected that the student will attempt and solve many more exercises from the drill assessment sets to improve their programming skills and for an excellent performance at the examinations.

Exercise

In this exercise, you are required to implement methods listed in interface `sortedList`.

If a new entry is added with the same key as an entry already in the sorted list, the new entry is located in the list after all entries with the matching keys. Thus, this new entry will always be retrieved from the list after all current entries with the matching key in the list have been removed.

1. Write tests-first approach based function `main()` to verify the correctness of the implementation.
2. Implement interface `sortedList` .
3. Verify the correctness of your implementation using the previously written test suite.

Suggested Interface

```
#ifndef LIST_H_INCLUDED
#define LIST_H_INCLUDED

/* Returns a reference to a new list */
void * mkList(void);

/* Place a new entry */
void insert (void * listP, void * objP, long key);

/* Returns/removes reference to object with key */
void * remove (void * listP, long key);

/* Returns reference/removes first object in list */
void * first (void *);
#endif // LIST_H_INCLUDED
```