CS110: Computer Programming Lab
Department of CSE
IIT, Guwahati

Module 04 Stage 02 Exercise 22

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

Replace the specifications and prototype of methods `pop()` and `push()` by methods `insert()` and `remove()` from class `sortedList`. That is, your new stack interface has methods `push()` and `pop()` that look slightly different; they also take key value.

Method `pop()` returns the object at the top in the stack which matches value of parameter `key`. If no entry matching the value of parameter key is in the stack, it returns the entry at the top of the stack.

1. Write a tests-first suite for this `class stack`.
2. Implement the interface `stack.h` as file `stack.c`.
3. Verify that your codes in part 1 and 2 above work correctly.

Discipline Stack

```
#ifndef STACK_H_INCLUDED
#define STACK_H_INCLUDED

/* Returns a reference to a new stack */
void * mkStack(void);

/* Place a new entry into stack */
void push (void * stackP, void * objP, long key);

/* Returns reference to the most recent arrival in stack*/
void * pop (void * queueRef, long key);

#endif // STACK_H_INCLUDED
```