CS110: Computer Programming Lab
Department of CSE
IIT, Guwahati

Module 04 Stage 02 Exercise 01

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

A suggested interface for class queue is given below.

1. Write a test suite to thoroughly test methods `duplicateQ()` and `reverseQ()` described in section Adding New Methods to Class Queue.
2. Add code in file `queue.c` to implement method `duplicateQ()`.
3. Verify that your codes in part 1 and 2 above work correctly.

Suggested/Referred Interface

```
#ifndef QUEUE_H_INCLUDED
#define QUEUE_H_INCLUDED

/* Returns a reference to a new queue */
void * mkQueue(void);

/* Removes a queue specified by a valid reference */
int rmQueue (void *);

/* Returns number of entries in a validly referenced queue */
int sizeQ (void *);

/* Place a new entry and returns new count of entries */
int joinQ (void * queueP, void * objP);

/* Returns reference to the most ancient arrival in queue */
void * leaveQ (void * queueRef);

/* Create a new queue by copying the given queue */
void * duplicateQ (void *);
```

```
/* Reverse the order of queue entries */
void reverseQ (void *);

#endif // QUEUE_H_INCLUDED
```