



भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी  
**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY GUWAHATI**

**Data Structure Lab, B.Tech 2nd Semester**

**Instructions**

1. After completion, you can share the files in mail to [g1.ds.lab.iiitg@gmail.com](mailto:g1.ds.lab.iiitg@gmail.com).
2. Deadline to submit is 29th May 2022.

**Assignment -6**

1. Write a C program to create a queue using circular array. The program should support the following functionalities.
  - (a) Insertion
  - (b) Deletion
  - (c) Traversing
2. Write a C program using appropriate data structure to create a list of actions performed in order to solve a particular case. Your application should support the following functionalities:
  - (a) Undo the actions in reverse order
  - (b) Undo the actions in the same order in which they were performed.
  - (c) Consider you are investigating a particular action, say x and you want to check all the actions performed before x to come to a conclusion. [say your list of actions is : A B C D E. Suppose you are investigating the action C, now you want to investigate all the actions performed before C i.e. B and A]
  - (d) While traversing the list of actions, if in any case you found that a particular action has not been performed well, redo the action.  
Note: Undo means removing an item from the datastructure.  
Redo means inserting an already existing item into the data structure.