

Data Structure and C Lab (Paper Code: Code: EC594B)
ECE 3rd Yr 5th Sem, 2015

1. a) Create an array and fill the array with Hemchandra (i.e.: Fibonacci) Numbers.
b) Use a pointer to access that array and print the array elements along with their addresses.
2. a) Implement a stack using array with proper functions.
b) Reverse any given string using your own implemented stack.
3. a) Implement a stack using array with proper functions.
b) Evaluate any given postfix expression (all operators are binary in nature and all operands are single digit numbers) using your own created stack.
4. Implementation of Queue using Array.
5. Implementation of Queue using Singly Linked Linear List.
6. Implement Circular Queue using Array.
7. Implement Circular Queue using Singly Linked Circular List.
8. Implement Stack using Array.
9. Implement Stack using Linked List.
10. Implement sparse matrix using Array/ Linked List.
11. Representation polynomials using Array/ Linked List and perform polynomials addition.
12. Implement singly linked list traversal using recursion.
13. Implement any binary tree traversal (pre-, in- & post- order).
14. Count the number of self loops in a given graph using – adjacency matrix or incidence matrix.
15. Implement the following sorting algorithms: a) Bubble sort b) Merge Pass
16. Implement the following sorting algorithms: a) Selection sort b) Insertion sort
17. Given a set of unsorted numbers. Consider the 1st number as pivot element and find its final position if the list were sorted.
18. Implement the Binary search algorithm.
19. Implement any Hashing functions with collision resolution techniques.
20. Implement two stacks in a single array.