1. **Implement the following Data structures in Java**

**a)Linked Lists b) Stacks c) Queues d) Set e) Map**

**Linked List**

program:

import java.util.\*;

public class LinkedListDemo {

public static void main(String args[]) {

// create a linked list

LinkedList ll = new LinkedList();

* add elements to the linked list ll.add("F");

ll.add("B");

ll.add("D");

ll.add("E");

ll.add("C");

ll.addLast("Z");

ll.addFirst("A"); ll.add(1, "A2");

System.*out*.println("Original contents of ll: " + ll);

* remove elements from the linked list ll.remove("F");

ll.remove(2);

System.*out*.println("Contents of ll after deletion: " + ll);

* remove first and last elements ll.removeFirst(); ll.removeLast();

System.*out*.println("ll after deleting first and last: "+ ll);

* get and set a value Object val = ll.get(2);

ll.set(2, (String) val + " Changed"); System.*out*.println("ll after change: " + ll);

}

}

Output:

Original contents of ll: [A, A2, F, B, D, E, C, Z]

Contents of ll after deletion: [A, A2, D, E, C, Z]

ll after deleting first and last: [A2, D, E, C]

ll after change: [A2, D, E Changed, C]