JOURNAL-03

1. Write a program which accepts starting character and ending character. Display one by one character from starting character till the ending character at the interval of one second using thread.

```
import java.util.Scanner;

public class PRG_01 {
   public static void main(String[] args) {
Scanner scanner = new Scanner(System.in);

      System.out.print("Enter the starting character: ");
char startChar = scanner.nextLine().charAt(0);

      System.out.print("Enter the ending character: ");
char endChar = scanner.nextLine().charAt(0);

      CharacterDisplayThread thread = new CharacterDisplayThread(startChar, endChar);
      thread.start();
   }
}

class CharacterDisplayThread extends Thread {    private char startChar;    private char endChar;    public CharacterDisplayThread(char startChar, char endChar) {
this.startChar = startChar;       this.endChar = endChar;
```

```
    }
    public void run() {
        for (char ch = startChar; ch <= endChar; ch++) {
System.out.print(ch);
            try {
                Thread.sleep(1000);
            } catch (InterruptedException e) {
e.printStackTrace();
            }
        }
    }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_01.java

E:\Java\JOURNAL-3>java PRG_01
Enter the starting character: l
Enter the ending character: s
lmnopqrs
E:\Java\JOURNAL-3>
```

2. Write a program that stores details of 5 employees and display this information after every 10 second.

```
import java.util.Scanner;

public class PRG_02 {

  public static void main(String[] args) {

      String[] name=new String[5];
      int[] age=new int[5];
      String[] department=new String[5];;
      double[] salary=new double[5];
      Scanner sc = new Scanner(System.in);
      for(int i=0;i<5;i++)
      {

            System.out.print("Enter Emp "+ (i+1) +" Name : ");
      name[i] = sc.nextLine();
            System.out.print("Enter Emp "+ (i+1) +" Age :
");          age[i] = sc.nextInt();              sc.nextLine();
            System.out.print("Enter Emp "+ (i+1) +" Department : ");
            department[i] = sc.nextLine();
            System.out.print("Enter Emp "+ (i+1) +" Salary : ");
            salary[i] = sc.nextDouble();
      sc.nextLine();
            System.out.println();
      }
```

```
        for(int i=0;i<5;i++)
        {

              try {

            System.out.print("\nName: " + name[i] + ", Age: " + age[i] + ",
            Department: " + department[i] + ", Salary: " + salary[i]);
                        Thread.sleep(10000);
          }
          catch (InterruptedException e)
          {
            e.printStackTrace();
          }

        }
    }
}
```

Output :

```
E:\Java\JOURNAL-3>java PRG_02
Enter Emp 1 Name : laxman
Enter Emp 1 Age : 20
Enter Emp 1 Department : bca
Enter Emp 1 Salary : 200000

Enter Emp 2 Name : jamu
Enter Emp 2 Age : 16
Enter Emp 2 Department : ssc
Enter Emp 2 Salary : 16000

Enter Emp 3 Name : manu
Enter Emp 3 Age : 18
Enter Emp 3 Department : hsc
Enter Emp 3 Salary : 10000

Enter Emp 4 Name : gangu
Enter Emp 4 Age : 19
Enter Emp 4 Department : bba
Enter Emp 4 Salary : 25000

Enter Emp 5 Name : ram
Enter Emp 5 Age : 30
Enter Emp 5 Department : msc
Enter Emp 5 Salary : 100000


Name: laxman, Age: 20, Department: bca, Salary: 200000.0
Name: jamu, Age: 16, Department: ssc, Salary: 16000.0
Name: manu, Age: 18, Department: hsc, Salary: 10000.0
Name: gangu, Age: 19, Department: bba, Salary: 25000.0
Name: ram, Age: 30, Department: msc, Salary: 100000.0
```

3. Write a java application which accepts 10 names of student and their age. Sort names and age in descending order at an interval of 1 second using thread.

```
import java.util.Arrays; import
java.util.Scanner; public class PRG_03 {
public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
String[] names = new String[10];       int[] ages
= new int[10];       for (int i = 0; i < 10; i++) {
         System.out.print("Enter name of student " + (i + 1) + ": ");
names[i] = scanner.nextLine();
         System.out.print("Enter age of student " + (i + 1) + ":
");          ages[i] = scanner.nextInt();
scanner.nextLine();
      }
        while (true) {
         System.out.println("\nSelect an option:");
         System.out.println("1. Sort via Name.");
         System.out.println("2. Sort via Age.");
         System.out.println("3. Exit");
        System.out.print("\nSelect Your Choice : ");
```

```
        int choice = scanner.nextInt();
scanner.nextLine();          switch
(choice) {              case 1:
                for (int i = 0; i < 10; i++) {
                  for (int j = i + 1; j < 10; j++) {                    if
(names[i].compareToIgnoreCase(names[j]) < 0) {
                                String tempName = names[i];
                                names[i] = names[j];
                            names[j] = tempName;
                  int tempAge = ages[i];
          ages[i] = ages[j];                          ages[j] =
tempAge;
                            }
                  }
          }
          System.out.println("\nSorted Names in Descending Order:");
          for (int i = 0; i < 10; i++) {
                  try {
                            System.out.println(names[i] + " - " + ages[i]);
                            Thread.sleep(1000);
```

```
                }
                catch (InterruptedException e) {
                        e.printStackTrace();
                }
            }
             break;
case 2:
                for (int i = 0; i < 10; i++) {
                        for (int j = i + 1; j < 10; j++) {
                  if (ages[i] < (ages[j])) {
          int tempage = ages[i];
          ages[i] = ages[j];                                ages[j] =
tempage;                                  String tempname =
names[i];                                 names[i] = names[j];
                                      names[j] = tempname;
                                }
                        }
                }
                System.out.println("\nSorted Ages in Descending Order:");
                for (int i = 0; i < 10; i++) {
```

```
                    try {
                        System.out.println(ages[i] + " - " + names[i]);
                        Thread.sleep(1000);
                    }
                    catch (InterruptedException e) {
                        e.printStackTrace();
                    }
                }
                break;
            case 3:
                System.out.println("Exiting
program...");                System.exit(0);
break;          default:
                System.out.println("Invalid choice. Try again.");
        }
    }
  }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_03.java

E:\Java\JOURNAL-3>java PRG_03
Enter name of student 1: laxman
Enter age of student 1: 20
Enter name of student 2: jamu
Enter age of student 2: 16
Enter name of student 3: ashish
Enter age of student 3: 19
Enter name of student 4: abhishek
Enter age of student 4: 22
Enter name of student 5: ambulance
Enter age of student 5: 18
Enter name of student 6: 32gb
Enter age of student 6: 19
Enter name of student 7: cow
Enter age of student 7: 14
Enter name of student 8: buffalo
Enter age of student 8: 80
Enter name of student 9: ankit
Enter age of student 9: 21
Enter name of student 10: shanti
Enter age of student 10: 36

Select an option:
1. Sort via Name.
2. Sort via Age.
3. Exit
```

```
Select Your Choice : 1

Sorted Names in Descending Order:
shanti - 36
laxman - 20
jamu - 16
cow - 14
buffalo - 80
ashish - 19
ankit - 21
ambulance - 18
abhishek - 22
32gb - 19

Select an option:
1. Sort via Name.
2. Sort via Age.
3. Exit

Select Your Choice : 2

Sorted Ages in Descending Order:
80 - buffalo
36 - shanti
22 - abhishek
21 - ankit
20 - laxman
19 - ashish
19 - 32gb
18 - ambulance
16 - jamu
14 - cow

Select an option:
1. Sort via Name.
2. Sort via Age.
3. Exit

Select Your Choice : 3
Exiting program...

E:\Java\JOURNAL-3>
```

4. Create package stores. Under it create a class called stock with member variable (item_no, item_name, stock_availible, and cost). Under the default package create a class called sales with field name (qty_sold) and it is the child class of stores class. Write a program to print the current stock of each item and perform addition.

```
import stores.stock; import
java.util.ArrayList; import
java.util.Scanner;

public class PRG_04 {

   public static void main(String[] args) {

      ArrayList<stock> items = new ArrayList<stock>();
items.add(new stock(1, "Apple", 10, 20.0));       items.add(new
stock(2, "Banana", 20, 30.0));       items.add(new stock(3,
"Ball", 30, 40.0));

      Scanner scanner = new Scanner(System.in);

      while (true) {
         System.out.println("\nCurrent Stock:");
for (stock item : items) {
System.out.println(item);
```

```
        }

        System.out.print("\nEnter the item no. to add stock, or 0 to exit:");
int item_no = scanner.nextInt();          if (item_no == 0) {              break;
        }

        stock item = items.stream().filter(i -> i.getItem_no() ==
item_no).findFirst().orElse(null);

        if (item == null) {
           System.out.println("Invalid item no.");
        }
        else {
           System.out.print("\nEnter the quantity to add:");
int qty = scanner.nextInt();
           item.setStock_available(item.getStock_available() + qty);
           System.out.println("Stock added successfully.");
        }
      }
   }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_04.java

E:\Java\JOURNAL-3>java PRG_04

Current Stock:
Item No.: 1, Item Name: Apple, Stock Available: 10, Cost: 20.0
Item No.: 2, Item Name: Banana, Stock Available: 20, Cost: 30.0
Item No.: 3, Item Name: Ball, Stock Available: 30, Cost: 40.0

Enter the item no. to add stock, or 0 to exit:3

Enter the quantity to add:66
Stock added successfully.

Current Stock:
Item No.: 1, Item Name: Apple, Stock Available: 10, Cost: 20.0
Item No.: 2, Item Name: Banana, Stock Available: 20, Cost: 30.0
Item No.: 3, Item Name: Ball, Stock Available: 96, Cost: 40.0

Enter the item no. to add stock, or 0 to exit:
```

5. Create a class namely Vehicle to maintain vehicle data like chassisNo, nameOfVehicle, colour, owner using singly circular linked list. Perform following operations on student list: a. Add vehicle details at the end of the list .

b. Remove last vehicle detail in the list .

c. Display all vehicle details in the list.

```
import java.util.Scanner;  class
Vehicle {    private int
chassisNo;    private String
nameOfVehicle;    private
```

```
String colour;     private String
owner;     private Vehicle next;

   public Vehicle(int chassisNo, String nameOfVehicle, String colour, String
owner) {
      this.chassisNo = chassisNo;
this.nameOfVehicle = nameOfVehicle;
this.colour = colour;        this.owner =
owner;        this.next = null;
      System.out.println("\nData Inserted Successfully.");
   }

   public int getChassisNo() {
return chassisNo;
   }

   public void setChassisNo(int chassisNo) {
this.chassisNo = chassisNo;
   }

   public String getNameOfVehicle() {
return nameOfVehicle;
   }

   public void setNameOfVehicle(String nameOfVehicle) {
this.nameOfVehicle = nameOfVehicle;
   }
```

```
   public String getColour() {
return colour;
   }

   public void setColour(String colour) {
this.colour = colour;
   }

   public String getOwner() {
return owner;
   }

   public void setOwner(String owner) {
this.owner = owner;
   }

   public Vehicle getNext() {
return next;
   }

   public void setNext(Vehicle next) {
this.next = next;
   }
}
```

```
class VehicleList {
private Vehicle tail;

   public VehicleList() {
tail = null;
   }

   public void addVehicle(int chassisNo, String nameOfVehicle, String colour, String
owner) {
      Vehicle newVehicle = new Vehicle(chassisNo, nameOfVehicle, colour,
owner);
      if (tail == null) {
tail = newVehicle;
tail.setNext(tail);
      }
      else {
         newVehicle.setNext(tail.getNext());
tail.setNext(newVehicle);          tail =
newVehicle;
      }
   }

   public void removeLastVehicle() {
      if (tail == null) {
         System.out.println("List is empty");
return;
      }
```

```
        if (tail.getNext() == tail) {
tail = null;            return;
        }
        Vehicle current = tail.getNext();
while (current.getNext() != tail) {
current = current.getNext();
        }
        current.setNext(tail.getNext());
tail = current;
    }
    public void displayVehicles() {
if (tail == null) {
            System.out.println("List is empty");
return;
        }
        Vehicle current = tail.getNext();
do {
                    System.out.println("-----------------------------------------");
            System.out.println("Chassis No: " + current.getChassisNo() +
                    " \nName of Vehicle: " + current.getNameOfVehicle() +
                    " \nColour: " + current.getColour() +
                    " \nOwner: " + current.getOwner());
                    System.out.println("-----------------------------------------");
current = current.getNext();        } while (current != tail.getNext());
    }
}
```

```
public class PRG_05 {  public static
void main(String[] args)
   {
      Scanner scan = new Scanner(System.in);
      VehicleList vehicleList = new VehicleList();
      while (true) {
            System.out.println("\n-----------------------------------------");
        System.out.println("\nCircular Singly Linked List Operations\n");
            System.out.println("-----------------------------------------");
        System.out.println("1. Insert at End.");
        System.out.println("2. Delete from End.");
        System.out.println("3. Get Item detail's.");
        System.out.println("4. Exit.");
            System.out.println("-----------------------------------------");
            System.out.print("Enter your Choice : ");
        int choice = scan.nextInt();
switch (choice)
        {
                    case 1 :
                    int ch_no;
                        String nameOfVeh, colour, owner;
                    System.out.print("Enter Chassis_No : ");
                    ch_no=scan.nextInt();
      scan.nextLine();
```

```
                    System.out.print("Enter Name of vehicle : ");
                    nameOfVeh=scan.nextLine();
                    System.out.print("Enter Color of vehicle : ");
                    colour=scan.nextLine();
                    System.out.print("Enter Owner Name : ");
                owner=scan.nextLine();
                    vehicleList.addVehicle(ch_no,nameOfVeh,colour,owner);
                    break;
                case 2 :
                    vehicleList.removeLastVehicle();
                    System.out.println("\nData Deleted Successfully.");
                    break;                              case 3 :
                    System.out.println("Vehicle details:");
                vehicleList.displayVehicles();
                    break;
                case 4 :
                    System.out.println("Program Exited...");
                    System.exit(0);
                    break;
            default:
                    System.out.println("Invalid choice. Try again.");
            }
        }
    }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_05.java

E:\Java\JOURNAL-3>java PRG_05

------------------------------------------------

Circular Singly Linked List Operations

------------------------------------------------
1. Insert at End.
2. Delete from End.
3. Get Item detail's.
4. Exit.
------------------------------------------------
Enter your Choice : 1
Enter Chassis_No : 124
Enter Name of vehicle : hf dulex
Enter Color of vehicle : black
Enter Owner Name : sudhir

Data Inserted Successfully.

------------------------------------------------

Circular Singly Linked List Operations

------------------------------------------------
1. Insert at End.
2. Delete from End.
3. Get Item detail's.
4. Exit.
------------------------------------------------
Enter your Choice : 3
```

```
Vehicle details:
-----------------------------------------------
Chassis No: 124
Name of Vehicle: hf dulex
Colour: black
Owner: sudhir
-----------------------------------------------


-----------------------------------------------

Circular Singly Linked List Operations

-----------------------------------------------
1. Insert at End.
2. Delete from End.
3. Get Item detail's.
4. Exit.
-----------------------------------------------
Enter your Choice : 2

Data Deleted Successfully.

-----------------------------------------------

Circular Singly Linked List Operations

-----------------------------------------------
1. Insert at End.
2. Delete from End.
3. Get Item detail's.
4. Exit.
-----------------------------------------------
Enter your Choice : 4
Program Exited...

E:\Java\JOURNAL-3>
```

6. Create a class namely Book to maintain Book details like id, name, quantity and author using singly linked list. Perform following operations on book list:

a. Add book details in the begging of the list .

b. Add book details at the end of the list .

c. Add book detail at particular position .

d. Remove first book detail from the list .

e. Remove last book detail from the list .

f. Display all book details in the list .

```
import java.util.Scanner;
class Book {    private
int id;    private String
name;    private int
quantity;    private
String author;    private
Book next;

   public Book(int id, String name, int quantity, String author) {
this.id = id;       this.name = name;       this.quantity =
quantity;       this.author = author;       this.next = null;
      System.out.println("\nData Inserted Successfully.");
   }
```

```
    public int getId() {
return id;
    }

    public void setId(int id) {
this.id = id;
    }

    public String getName() {
return name;
    }

    public void setName(String name) {
this.name = name;
    }

    public int getQuantity() {
return quantity;
    }

    public void setQuantity(int quantity) {
this.quantity = quantity;
    }

    public String getAuthor() {
return author;
```

```
    }

    public void setAuthor(String author) {
this.author = author;
    }

    public Book getNext() {
return next;
    }

    public void setNext(Book next) {
this.next = next;
    }
}


class BookList {
private Book head;

    public BookList() {
head = null;
    }

    public void addBookAtBeginning(int id, String name, int quantity, String
author) {
        Book newBook = new Book(id, name, quantity, author);
newBook.setNext(head);        head = newBook;
```

```
    }
    public void addBookAtEnd(int id, String name, int quantity, String author)
{       Book newBook = new Book(id, name, quantity, author);       if (head
== null) {           head = newBook;
        } else {
            Book current = head;
while (current.getNext() != null) {
current = current.getNext();
            }
            current.setNext(newBook);
        }
    }
    public void addBookAtPosition(int id, String name, int quantity, String author,
int position) {
        if (position == 1) {           addBookAtBeginning(id,
name, quantity, author);
        } else {
            Book newBook = new Book(id, name, quantity, author);
Book current = head;           int currentPosition = 1;
while (currentPosition < position - 1 && current != null) {
current = current.getNext();              currentPosition++;
            }
            if (current != null) {
                newBook.setNext(current.getNext());
current.setNext(newBook);
            } else {
                System.out.println("Invalid position");
```

```
        }
      }
    }
    public void removeFirstBook() {
if (head == null) {
        System.out.println("List is empty");
      } else {          head =
head.getNext();
      }
    }
    public void removeLastBook() {
if (head == null) {
        System.out.println("List is empty");
      }
      else if (head.getNext() == null) {
head = null;
      }
      else {
        Book current =head;
            while (current.getNext().getNext() != null) {
      current = current.getNext();
            }
            current.setNext(null);
      }
 }
 public void displayBooks() {
      if (head == null) {
```

```
            System.out.println("List is empty");
        } else {
            Book current = head;
            System.out.println("-----------------------------------------");
            while (current != null) {
                System.out.println("ID: " + current.getId() + ", Name: " +
current.getName() + ", Quantity: " + current.getQuantity() + ", Author: " +
current.getAuthor());
                current = current.getNext();
            }
            System.out.println("-----------------------------------------");
        }
    }
}

public class PRG_06
{
   public static void main(String[] args)
   {
      int id;
      String name;
      int quantity;
      String author;
      Scanner scan = new Scanner(System.in);
      BookList bookList = new BookList();
      while (true) {
            System.out.println("\n-----------------------------------------");
```

```
        System.out.println("\nSingly Linked List Operations\n");
            System.out.println("----------------------------------------------");
        System.out.println("1. Insert at Begining.");
        System.out.println("2. Insert at End.");
        System.out.println("3. Insert at Position.");
        System.out.println("4. Delete from Head.");
        System.out.println("5. Delete from Tail.");
        System.out.println("6. Display Data.");
            System.out.println("7. Exit.");
        System.out.println("----------------------------------------------");
            System.out.print("Enter your Choice : ");
        int choice = scan.nextInt();
switch (choice)
        {
case 1 :
                    System.out.print("Enter Your ID : ");
                    id=scan.nextInt();
    scan.nextLine();
                    System.out.print("Enter Your Name : ");
    name=scan.nextLine();
                    System.out.print("Enter Quantity of Books :
");                  quantity=scan.nextInt();
    scan.nextLine();
                    System.out.print("Enter Author Name : ");
            author=scan.nextLine();
                    bookList.addBookAtBeginning(id,name,quantity,author);
break;                          case 2 :
```

```
                System.out.print("Enter Your ID : ");
                id=scan.nextInt();
    scan.nextLine();
                System.out.print("Enter Your Name : ");
    name=scan.nextLine();
                System.out.print("Enter Quantity of Books :
");              quantity=scan.nextInt();
    scan.nextLine();
                System.out.print("Enter Author Name : ");
          author=scan.nextLine();
    bookList.addBookAtEnd(id,name,quantity,author);
break;                      case 3 :
                int position;
                System.out.print("Enter Position you want to Insert Record :
");              position=scan.nextInt();            System.out.print("Enter
Your ID : ");               id=scan.nextInt();              scan.nextLine();
                System.out.print("Enter Your Name : ");
    name=scan.nextLine();
                System.out.print("Enter Quantity of Books : ");
    quantity=scan.nextInt();
                scan.nextLine();
                System.out.print("Enter Author Name : ");
    author=scan.nextLine();
        bookList.addBookAtPosition(id,name,quantity,author,position);
break;                              case 4 :
        bookList.removeFirstBook();
```

```
  System.out.println("\nData Deleted Successfully.");              break;
case 5 :
            bookList.removeLastBook();
  System.out.println("\nData Deleted Successfully.");              break;
case 6 :
            bookList.displayBooks();
break;              case 7 :
                    System.out.println("Program
Exited...");                    System.exit(0);
      break;          default :
            System.out.println("Invalid choice. Try again.");
break;
         }
      }
   }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_06.java

E:\Java\JOURNAL-3>java PRG_06

------------------------------------------------

Singly Linked List Operations

------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
------------------------------------------------
Enter your Choice : 1
Enter Your ID : 103
Enter Your Name : ashish
Enter Quantity of Books : 25
Enter Author Name : ashu

Data Inserted Successfully.

------------------------------------------------

Singly Linked List Operations

------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
------------------------------------------------
Enter your Choice : 2
```

```
Enter Your ID : 152
Enter Your Name : abhishek
Enter Quantity of Books : 75
Enter Author Name : abhi

Data Inserted Successfully.

------------------------------------------------

Singly Linked List Operations

------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
------------------------------------------------
Enter your Choice : 3
Enter Position you want to Insert Record : 2
Enter Your ID : 90
Enter Your Name : laxman
Enter Quantity of Books : 69
Enter Author Name : shiva

Data Inserted Successfully.

------------------------------------------------

Singly Linked List Operations

------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
```

```
5. Delete from Tail.
6. Display Data.
7. Exit.
-------------------------------------------------
Enter your Choice : 6
-------------------------------------------------
ID: 103, Name: ashish, Quantity: 25, Author: ashu
ID: 90, Name: laxman, Quantity: 69, Author: shiva
ID: 152, Name: abhishek, Quantity: 75, Author: abhi
-------------------------------------------------

-------------------------------------------------

Singly Linked List Operations

-------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
-------------------------------------------------
Enter your Choice : 4

Data Deleted Successfully.

-------------------------------------------------

Singly Linked List Operations

-------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
```

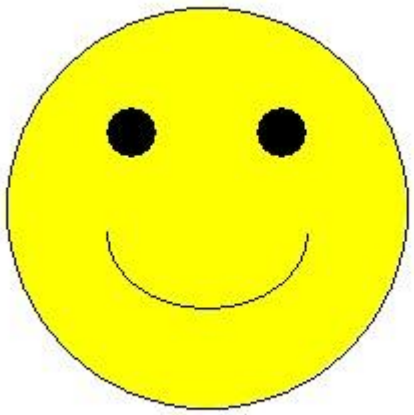
```
7. Exit.
-------------------------------------------------
Enter your Choice : 5

Data Deleted Successfully.

-------------------------------------------------

Singly Linked List Operations

-------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
-------------------------------------------------
Enter your Choice : 6
-------------------------------------------------
ID: 90, Name: laxman, Quantity: 69, Author: shiva
-------------------------------------------------

-------------------------------------------------

Singly Linked List Operations

-------------------------------------------------
1. Insert at Begining.
2. Insert at End.
3. Insert at Position.
4. Delete from Head.
5. Delete from Tail.
6. Display Data.
7. Exit.
-------------------------------------------------
Enter your Choice : 7
Program Exited...

E:\Java\JOURNAL-3>
```

7. Write a programme to draw smiley with colour using applet.

```
import java.awt.*; import
java.applet.*;

//<applet code="PRG_07.class" height="800" width="1860"> </applet>

public class PRG_07 extends Applet {

   public void paint(Graphics g) {

      g.setColor(Color.yellow);
      g.fillOval(50,50,200,200);
      g.setColor(Color.black);
      g.drawOval(50,50,200,200);

      g.setColor(Color.black);
      g.fillOval(100,100,25,25);
      g.fillOval(175,100,25,25);

      g.setColor(Color.black);
      g.drawArc(100,125,100,75,0,-180);

   }
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_07.java

E:\Java\JOURNAL-3>appletviewer PRG_07.java
```



8. Create an applet which displays a solid square having red colour. Display name of your college within the square with font style =’Times New Roman’, font size=50 and font colour=’Yellow’.

```
import java.awt.*; import
java.applet.*;

//<applet code="PRG_08.class" height="800" width="1860"> </applet>

public class PRG_08 extends Applet {

   public void paint(Graphics g) {

      g.setColor(Color.red);
      g.fillRect(200,200,400,400);

      g.setColor(Color.yellow);
      Font font = new Font("Times New Roman", Font.PLAIN, 50);
g.setFont(font);
      FontMetrics metrics = g.getFontMetrics(font);       int x =
(200 - metrics.stringWidth("My College")) / 2;       int y = ((200 -
metrics.getHeight()) / 2) + metrics.getAscent();
g.drawString("VTCBCSR", 300+x, 300+y);

   }
```

```
}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_08.java

E:\Java\JOURNAL-3>appletviewer PRG_08.java
```

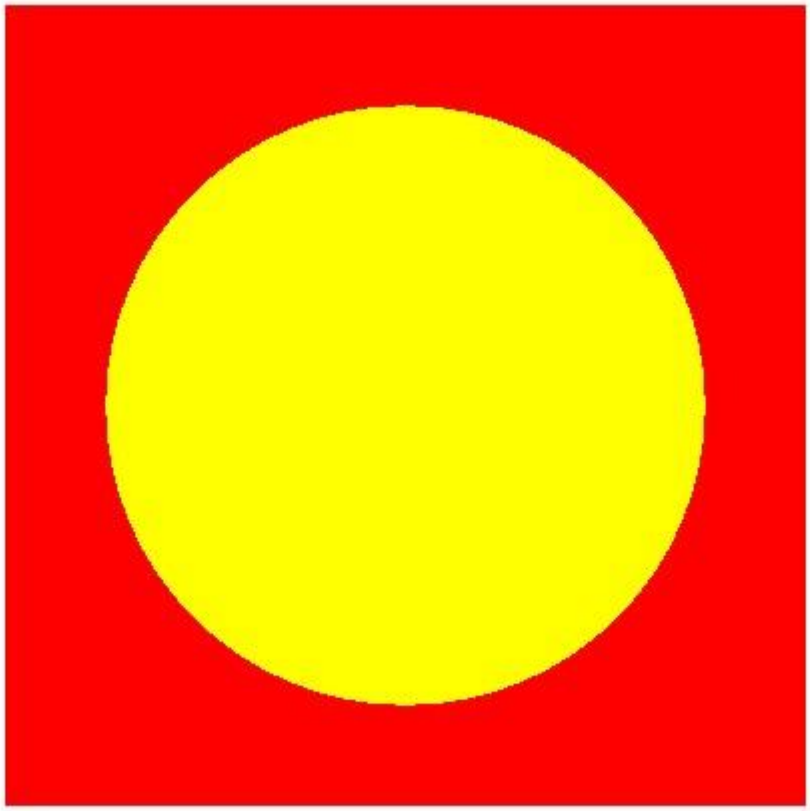
9. Write a program to draw circle inside a square in applet with different colours.

```
import java.awt.*; import
java.applet.*;

//<applet code="PRG_09.class" height="800" width="1860"> </applet>

public class PRG_09 extends Applet {
```

```
    public void paint(Graphics g) {

        g.setColor(Color.red);
        g.fillRect(200,200,400,400);


        g.setColor(Color.yellow);
        g.fillOval(250,250,300,300);

    }

}
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_09.java

E:\Java\JOURNAL-3>appletviewer PRG_09.java
```



10. Write an applet program which accepts number of ovals user wants to display using parameter tag and draws ovals in different positions.

```
import java.awt.*; import
java.applet.*;

/*<applet code="PRG_10.class" height="800" width="1860">
 <param name="numOvals" value="10">
  </applet>*/
```

```
public class PRG_10 extends Applet {
private int numOvals;

   public void init() {
      String numOvalsStr = getParameter("numOvals");
numOvals = Integer.parseInt(numOvalsStr);
   }

   public void paint(Graphics g) {       for
(int i = 0; i < numOvals; i++) {          int x
= (int)(Math.random() * 300);          int y
= (int)(Math.random() * 300);          int
w = (int)(Math.random() * 100);
int h = (int)(Math.random() * 100);
g.drawOval(x, y, w, h);
      }
   } }
```

Output :

```
E:\Java\JOURNAL-3>javac PRG_10.java

E:\Java\JOURNAL-3>appletviewer PRG_10.java
```