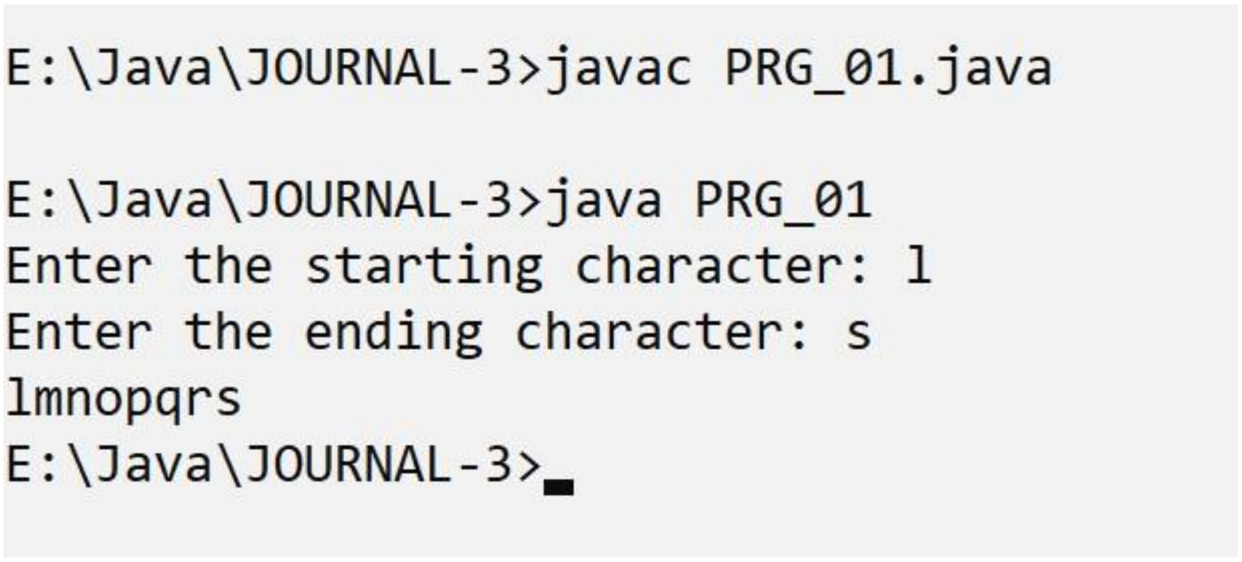
JOURNAL-03

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 :

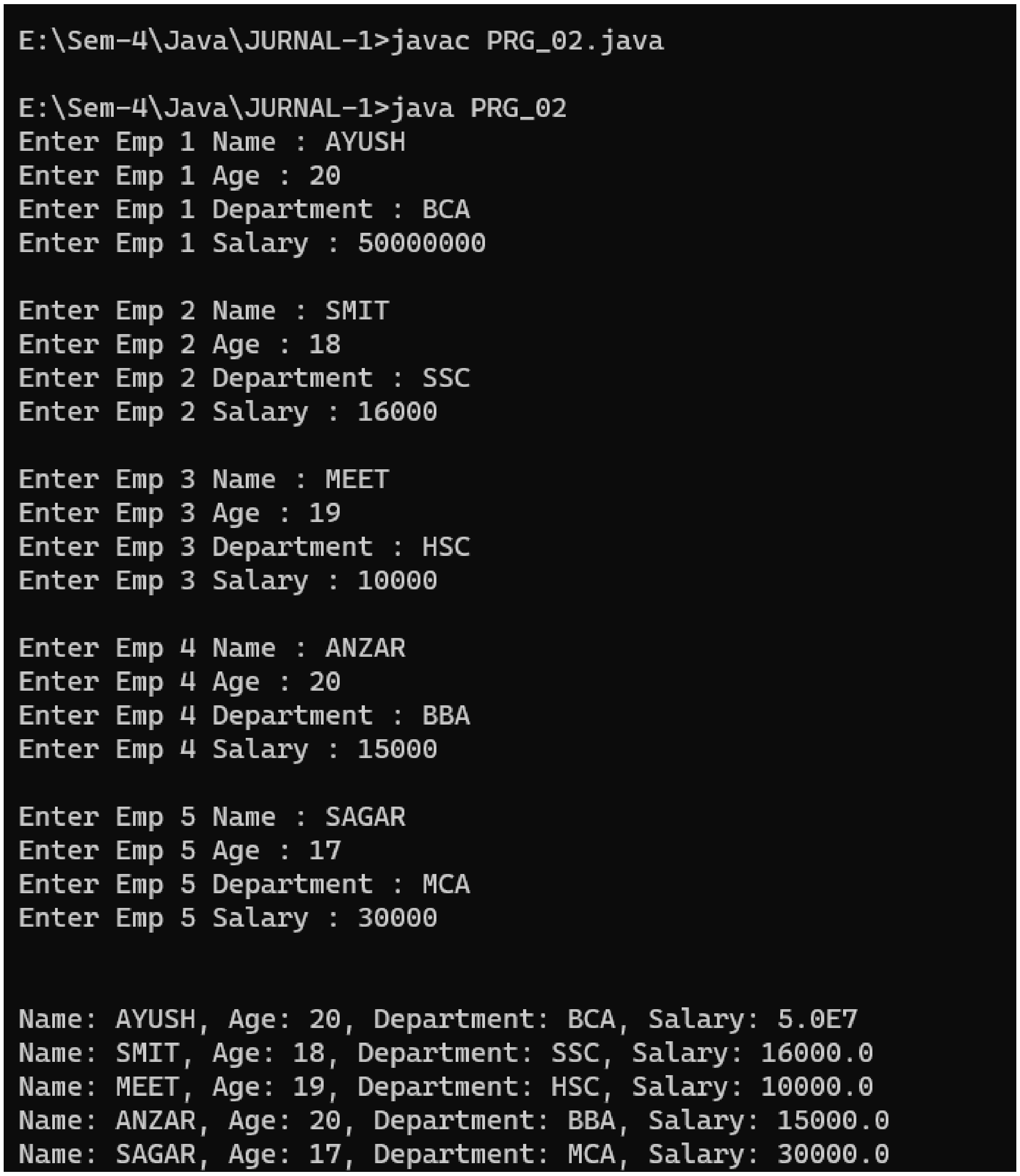


```
E:\Java\JOURNAL-3>javac PRG_01.java

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 :



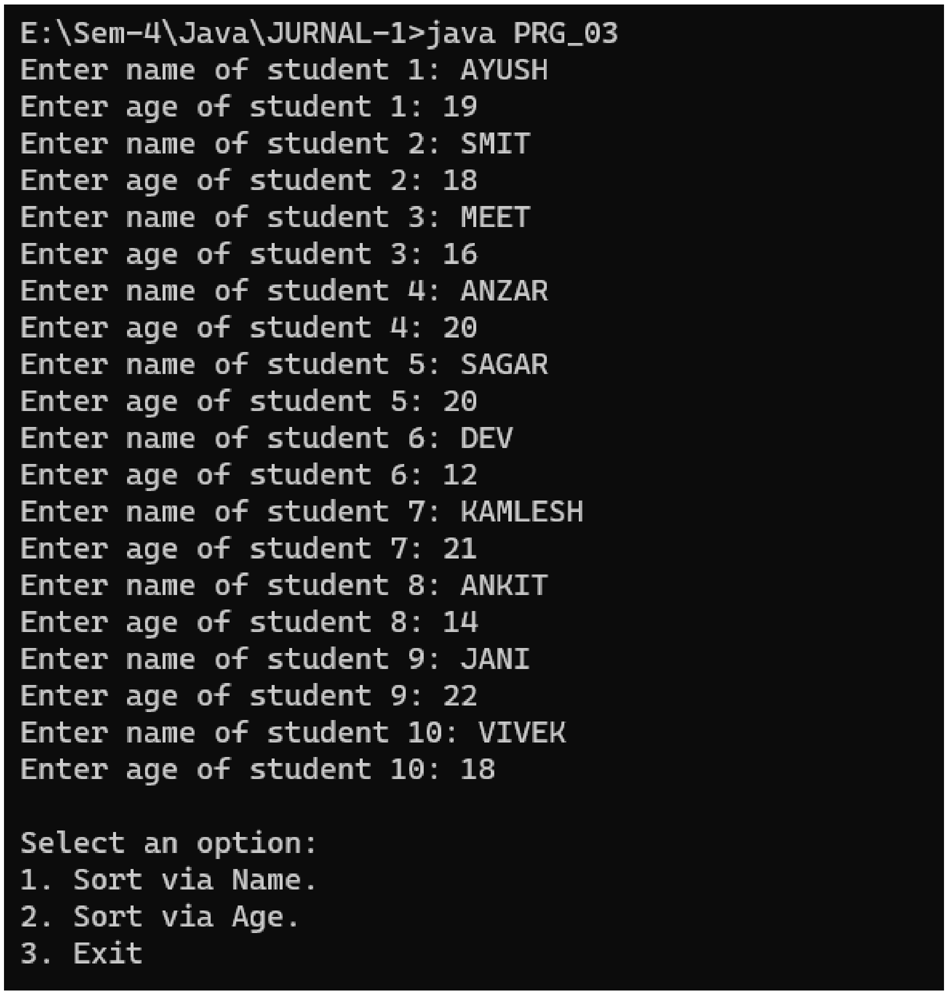
```
E:\Sem-4\Java\JURNAL-1>javac PRG_02.java

E:\Sem-4\Java\JURNAL-1>java PRG_02
Enter Emp 1 Name : AYUSH
Enter Emp 1 Age : 20
Enter Emp 1 Department : BCA
Enter Emp 1 Salary : 50000000

Enter Emp 2 Name : SMIT
Enter Emp 2 Age : 18
Enter Emp 2 Department : SSC
Enter Emp 2 Salary : 16000

Enter Emp 3 Name : MEET
Enter Emp 3 Age : 19
Enter Emp 3 Department : HSC
Enter Emp 3 Salary : 10000

Enter Emp 4 Name : ANZAR
Enter Emp 4 Age : 20
Enter Emp 4 Department : BBA
Enter Emp 4 Salary : 15000

Enter Emp 5 Name : SAGAR
Enter Emp 5 Age : 17
Enter Emp 5 Department : MCA
Enter Emp 5 Salary : 30000


Name: AYUSH, Age: 20, Department: BCA, Salary: 5.0E7
Name: SMIT, Age: 18, Department: SSC, Salary: 16000.0
Name: MEET, Age: 19, Department: HSC, Salary: 10000.0
Name: ANZAR, Age: 20, Department: BBA, Salary: 15000.0
Name: SAGAR, Age: 17, Department: MCA, Salary: 30000.0
```

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.

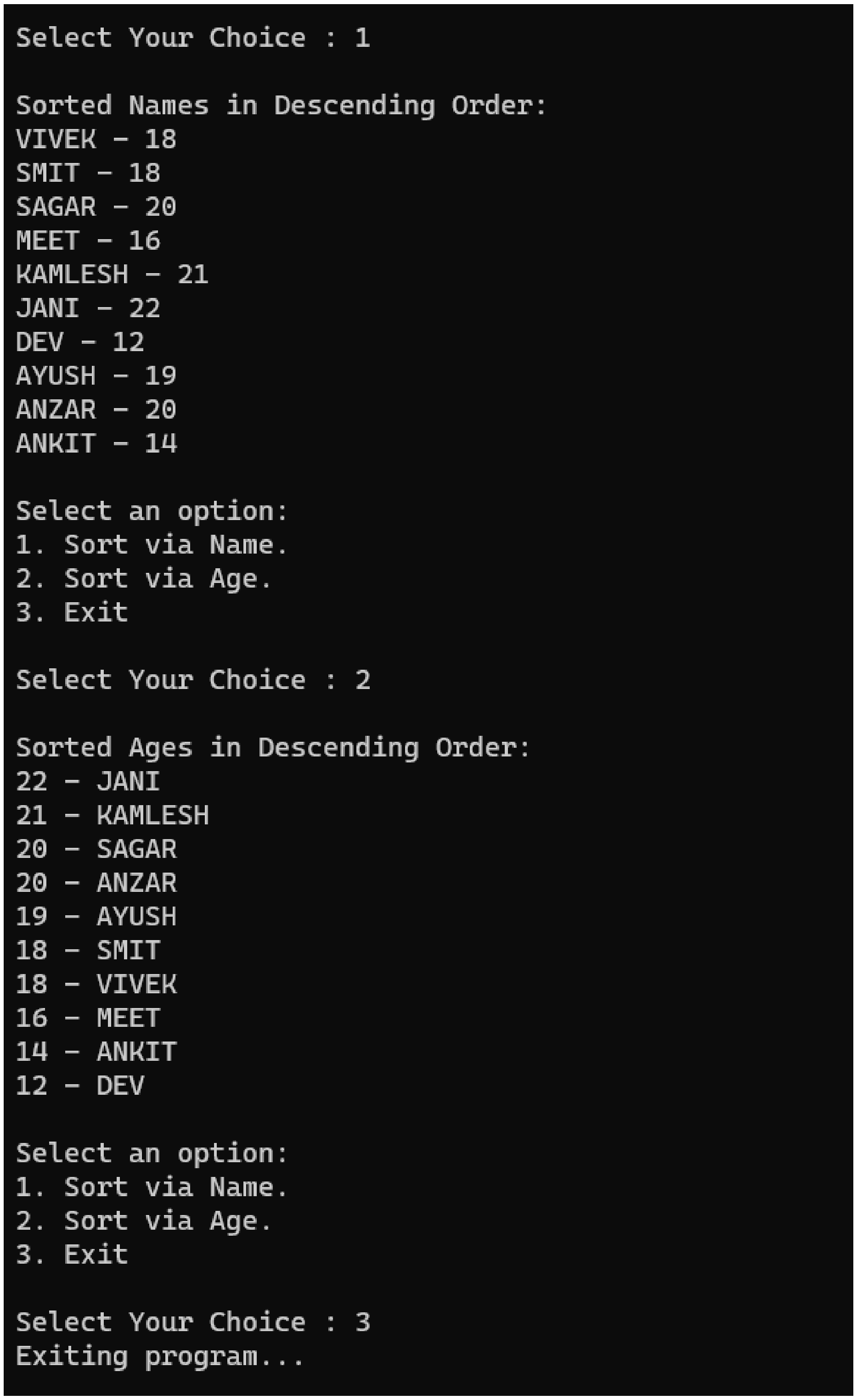
```
import java.util.Arrays; import

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:\Sem-4\Java\JURNAL-1>java PRG_03
Enter name of student 1: AYUSH
Enter age of student 1: 19
Enter name of student 2: SMIT
Enter age of student 2: 18
Enter name of student 3: MEET
Enter age of student 3: 16
Enter name of student 4: ANZAR
Enter age of student 4: 20
Enter name of student 5: SAGAR
Enter age of student 5: 20
Enter name of student 6: DEV
Enter age of student 6: 12
Enter name of student 7: KAMLESH
Enter age of student 7: 21
Enter name of student 8: ANKIT
Enter age of student 8: 14
Enter name of student 9: JANI
Enter age of student 9: 22
Enter name of student 10: VIVEK
Enter age of student 10: 18

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



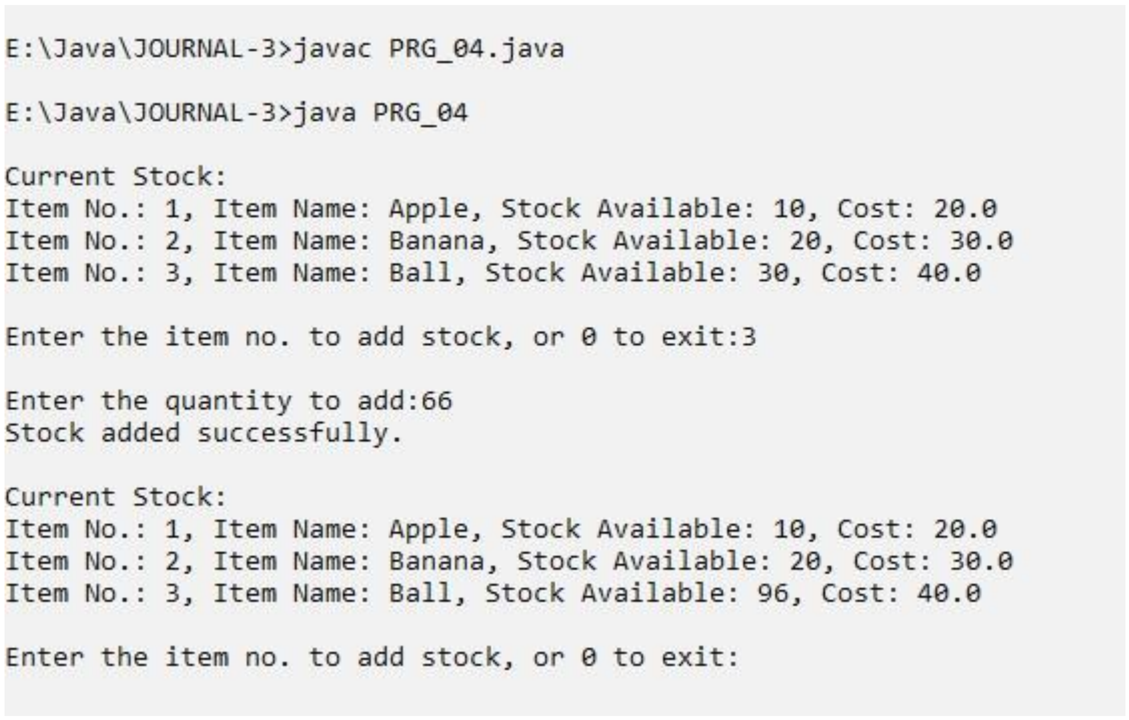
```
Select Your Choice : 1

Sorted Names in Descending Order:
VIVEK - 18
SMIT - 18
SAGAR - 20
MEET - 16
KAMLESH - 21
JANI - 22
DEV - 12
AYUSH - 19
ANZAR - 20
ANKIT - 14

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

Select Your Choice : 2

Sorted Ages in Descending Order:
22 - JANI
21 - KAMLESH
20 - SAGAR
20 - ANZAR
19 - AYUSH
18 - SMIT
18 - VIVEK
16 - MEET
14 - ANKIT
12 - DEV

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

Select Your Choice : 3
Exiting program...
```

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.

```
package stores;


public class stock {     private

int item_no;     private String

item_name;     private int

stock_available;     private

double cost;


   public stock(int item_no, String item_name, int stock_available, double cost)

{       this.item_no = item_no;       this.item_name = item_name;

this.stock_available = stock_available;       this.cost = cost;

   }


   public int getItem_no() {

return item_no;
```

```
    }


    public String getItem_name() {
return item_name;
    }


    public int getStock_available() {
return stock_available;
    }


    public double getCost() {
return cost;
    }


    public void setStock_available(int stock_available) {
this.stock_available = stock_available;
    }


    public void setCost(double cost) {
        this.cost = cost;
    }
    public String toString() {
        return "Item No.: " + item_no + ", Item Name: " + item_name + ", Stock
Available: " + stock_available + ", Cost: " + cost;
    }
}
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;
   }
```

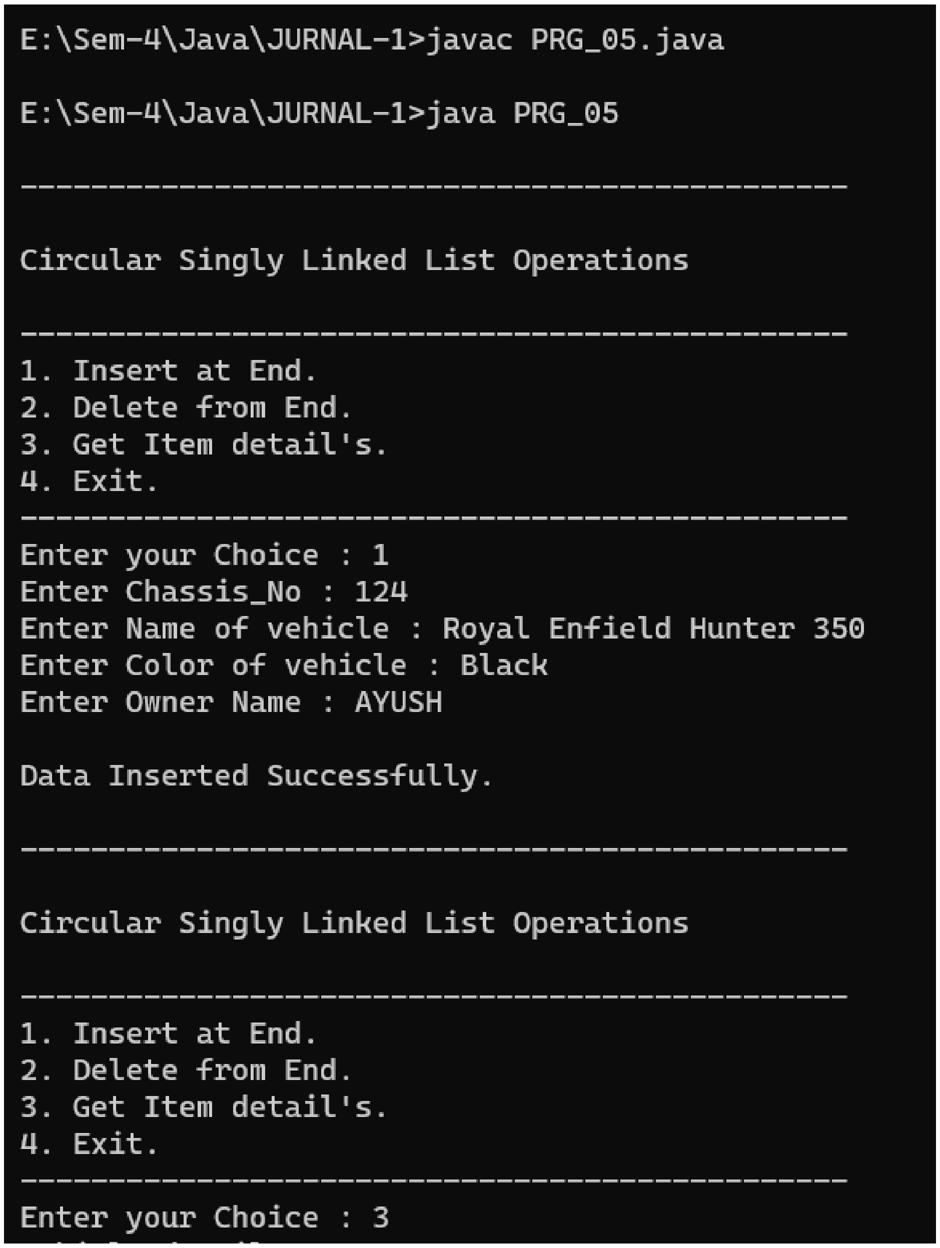
```
    public String getColour() {
return colour;
    }

    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;
```

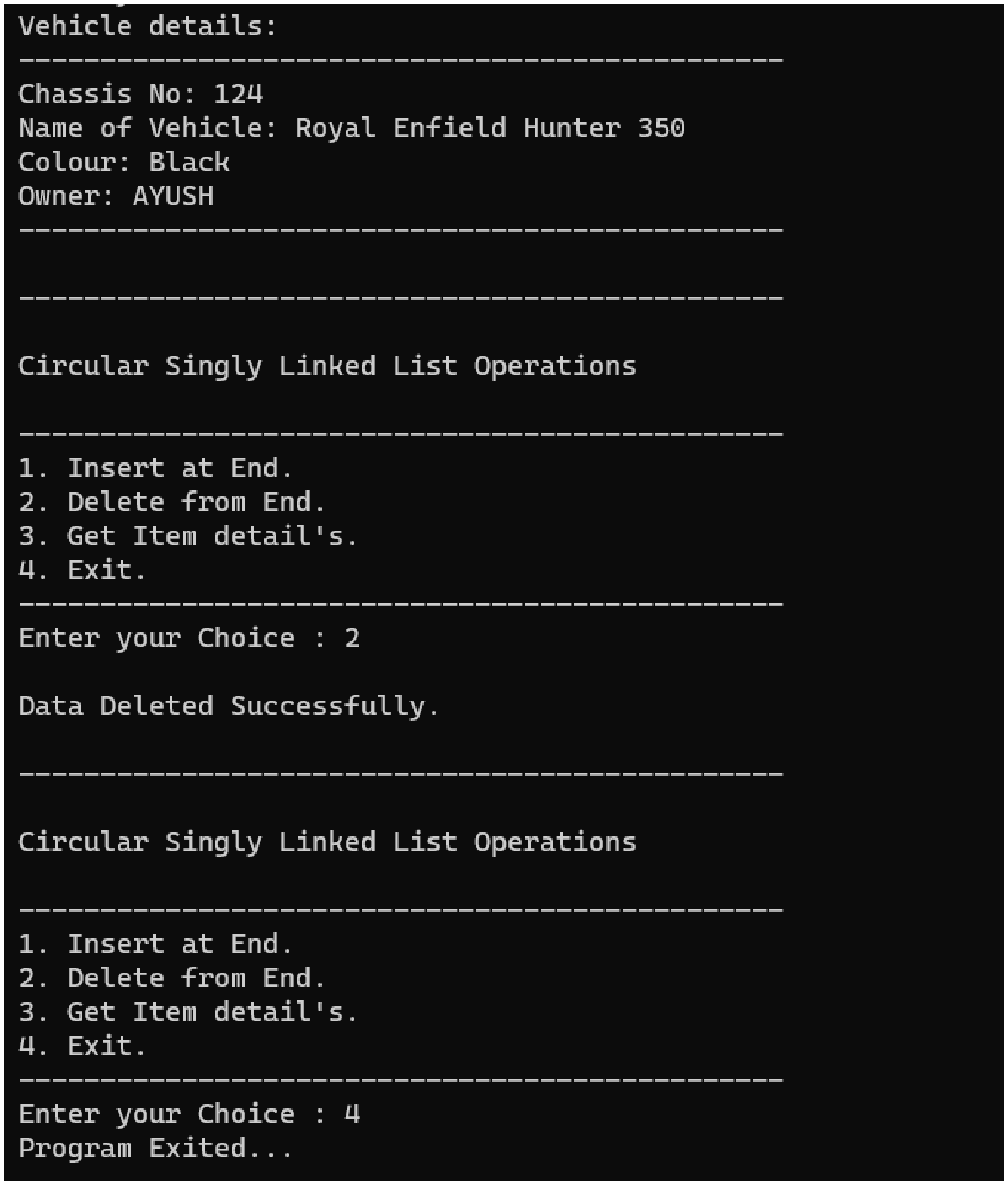
```
        }
        Vehicle current = tail.getNext();
while (current.getNext() != tail) {
current = current.getNext();
        }
        current.setNext(tail.getNext());
tail = current;
    }
    public void displayVehicles() {
if (tail == null) {
            System.out.println("List is empty");
return;
        }
        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:\Sem-4\Java\JURNAL-1>javac PRG_05.java

E:\Sem-4\Java\JURNAL-1>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 : Royal Enfield Hunter 350
Enter Color of vehicle : Black
Enter Owner Name : AYUSH

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: Royal Enfield Hunter 350
Colour: Black
Owner: AYUSH
-----------------------------------------------

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

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...
```

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;
    }
```

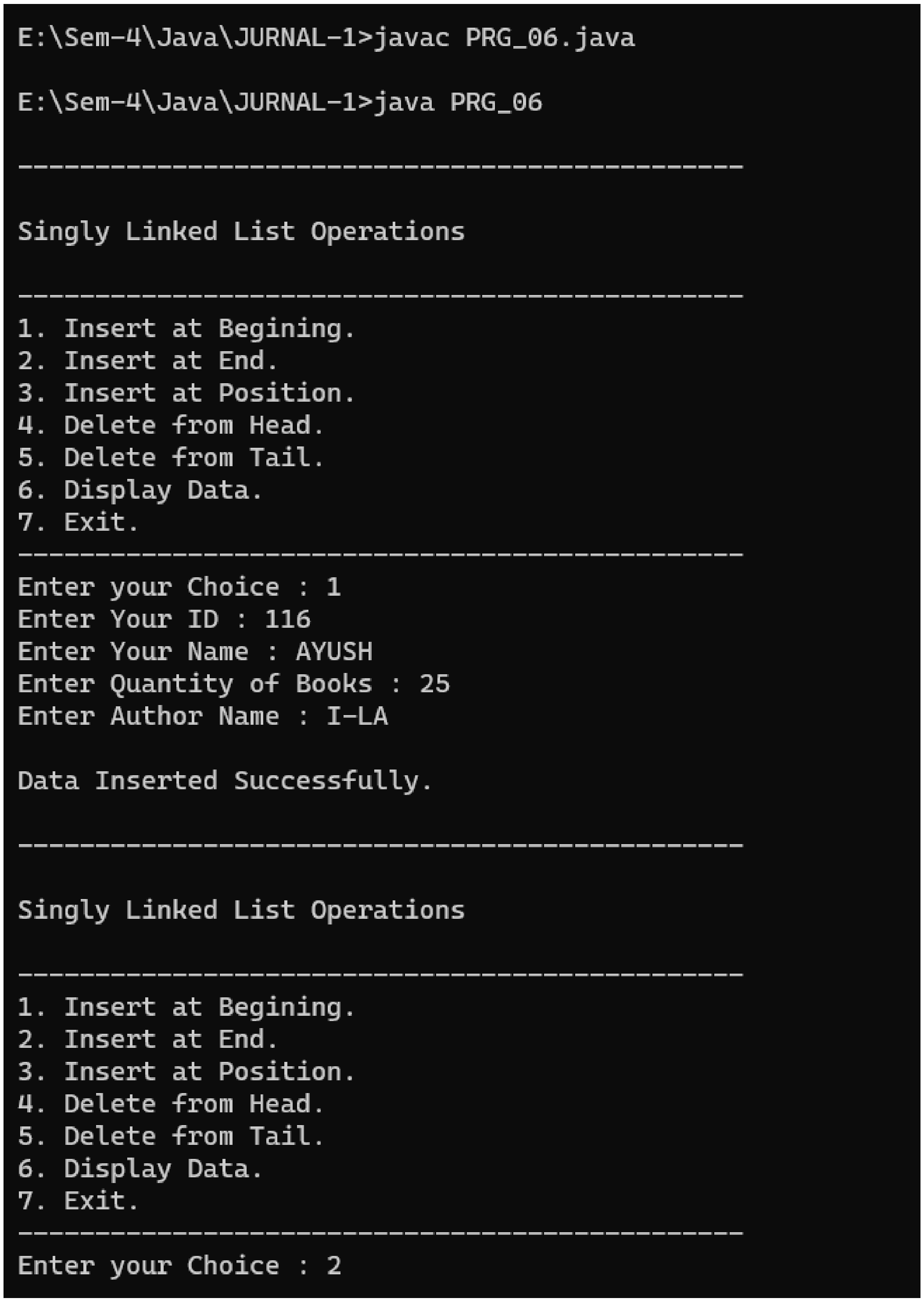
```
   public Book getNext() {
return next;
   }

   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();
```

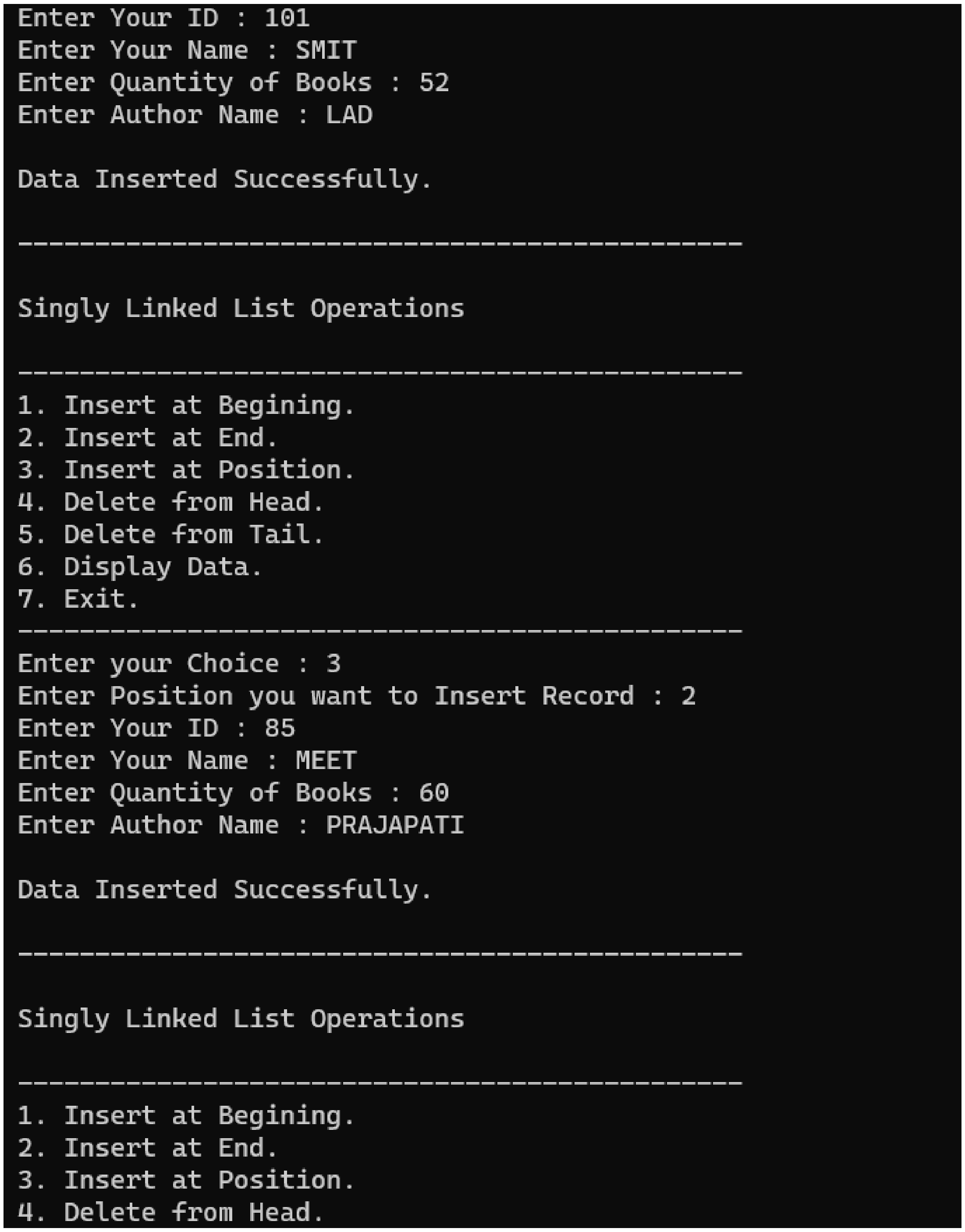
```
                        System.out.print("Enter Quantity of Books :
");                     quantity=scan.nextInt();
      scan.nextLine();
                        System.out.print("Enter Author Name : ");
            author=scan.nextLine();
      bookList.addBookAtEnd(id,name,quantity,author);
break;                            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;
         }
      }
   }
}
```

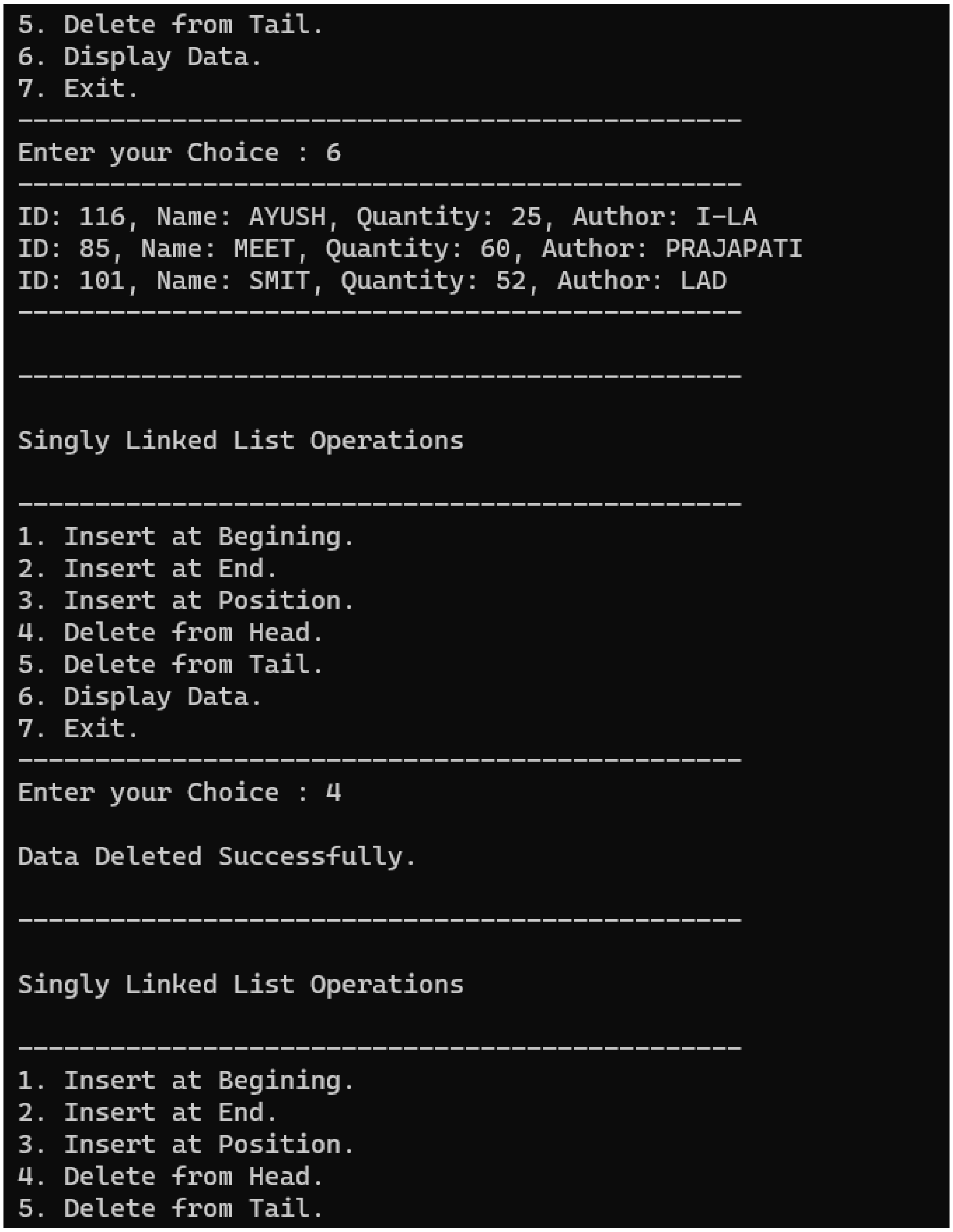
Output :



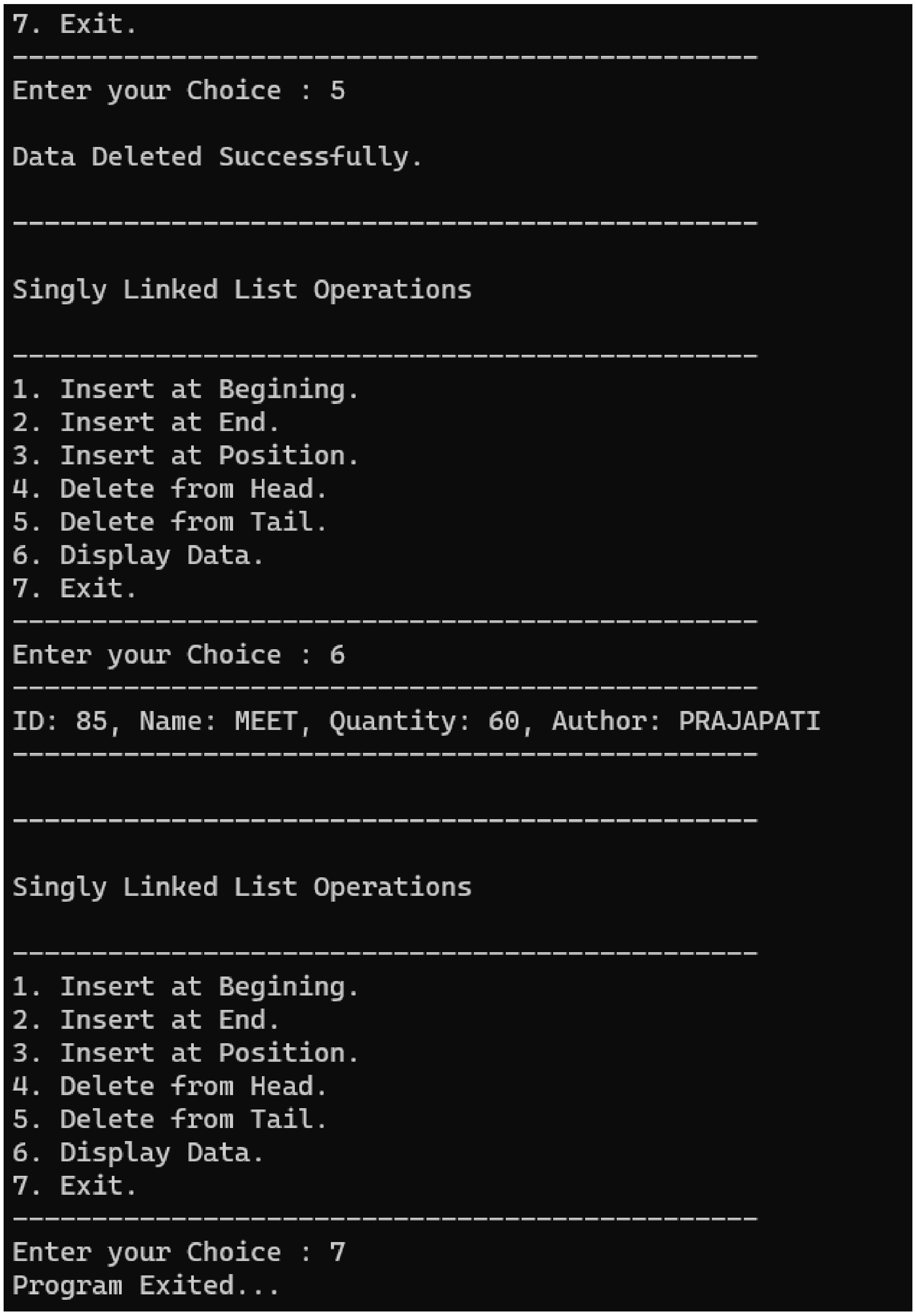
```
E:\Sem-4\Java\JURNAL-1>javac PRG_06.java

E:\Sem-4\Java\JURNAL-1>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 : 116
Enter Your Name : AYUSH
Enter Quantity of Books : 25
Enter Author Name : I-LA

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 : 101
Enter Your Name : SMIT
Enter Quantity of Books : 52
Enter Author Name : LAD

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 : 85
Enter Your Name : MEET
Enter Quantity of Books : 60
Enter Author Name : PRAJAPATI

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 : 6
-----------------------------------------------
ID: 116, Name: AYUSH, Quantity: 25, Author: I-LA
ID: 85, Name: MEET, Quantity: 60, Author: PRAJAPATI
ID: 101, Name: SMIT, Quantity: 52, Author: LAD
-----------------------------------------------

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


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.
```

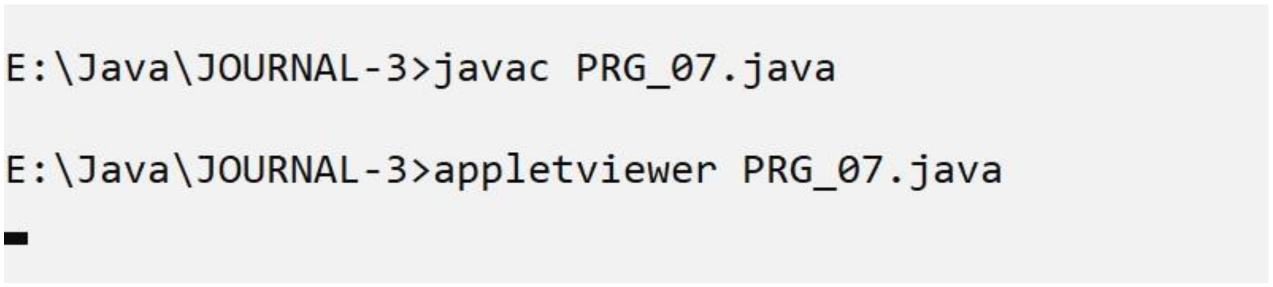


```
7. Exit.
-----------------------------------------------
Enter your Choice : 5

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: 85, Name: MEET, Quantity: 60, Author: PRAJAPATI
-----------------------------------------------


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

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...
```

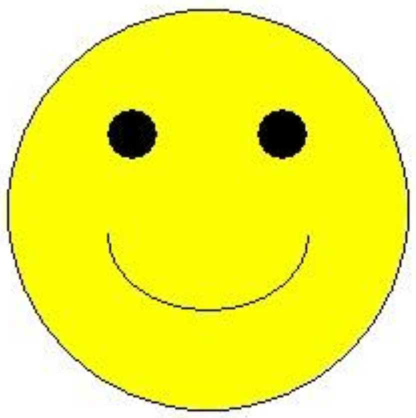
7. Write a programme to draw smiley with colour using applet.

```
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
```

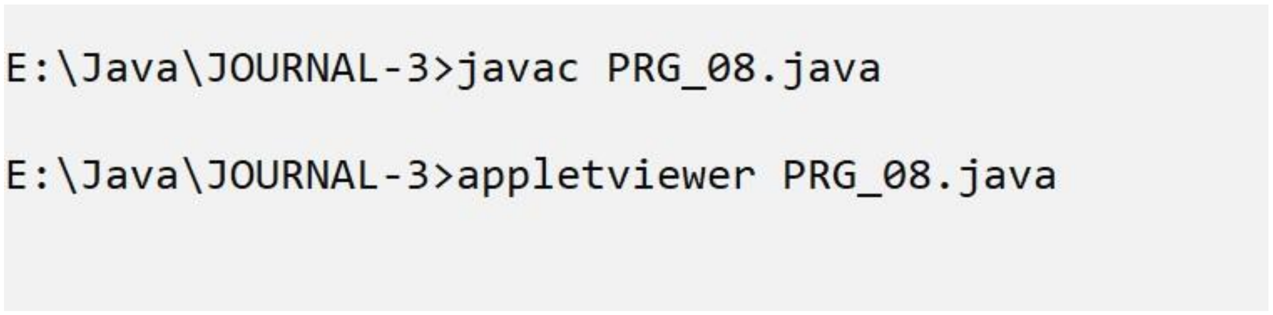


8. Create an applet which displays a solid square having red colour. Display name of your college within the square with

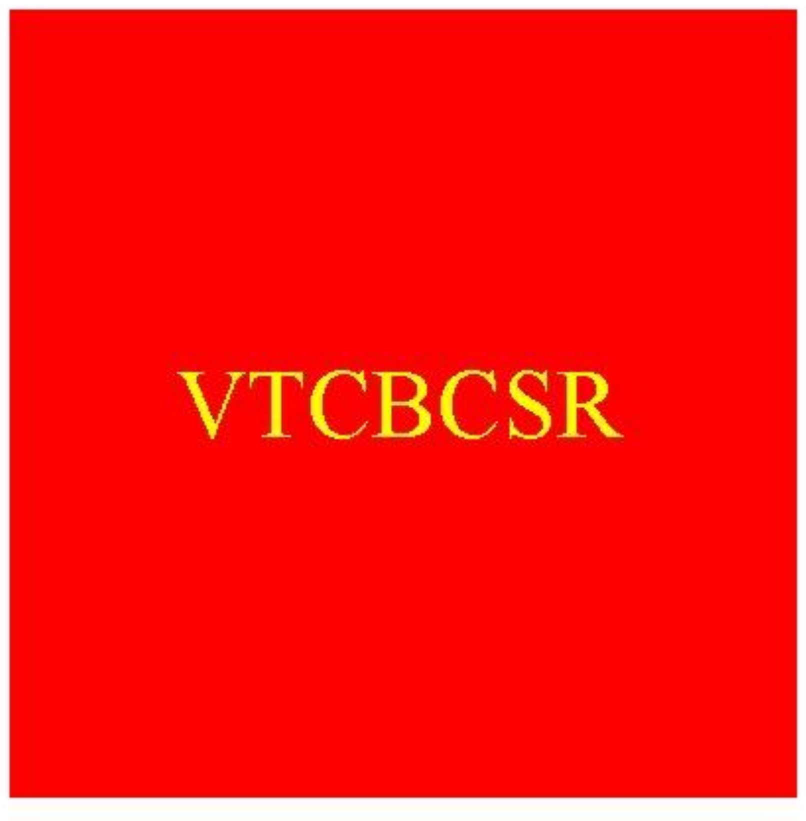
font style ='Times New Roman', font size=50 and font colour='Yellow'.

```
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 :



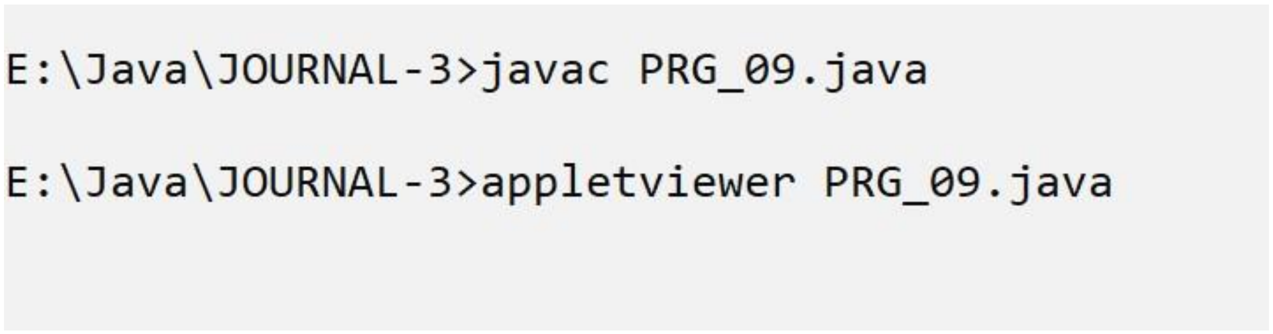
```
E:\Java\JOURNAL-3>javac PRG_08.java

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



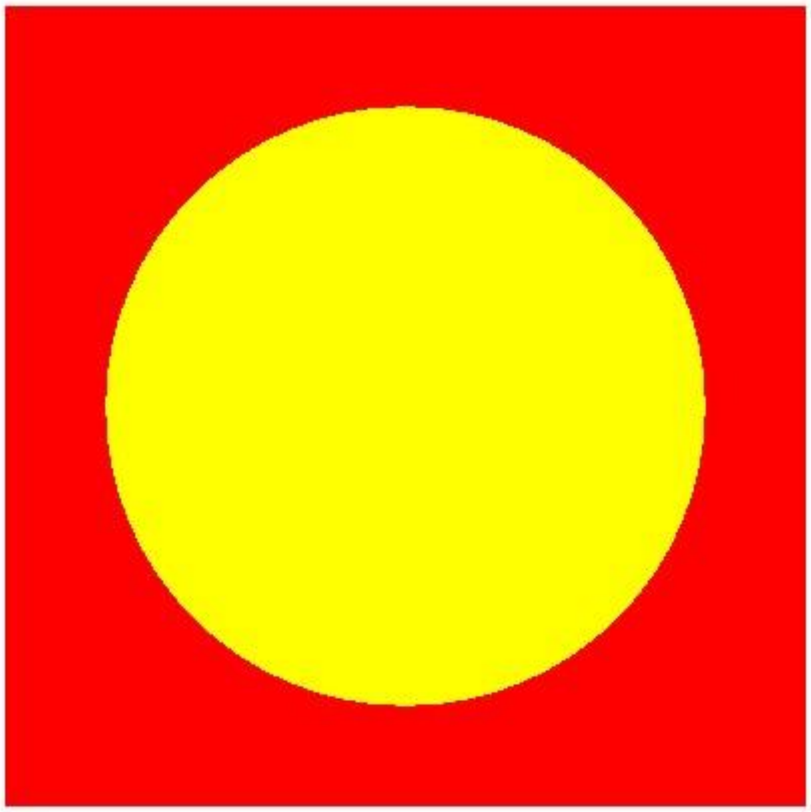
9. Write a program to draw circle inside a square in applet with different colours.

```
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 :



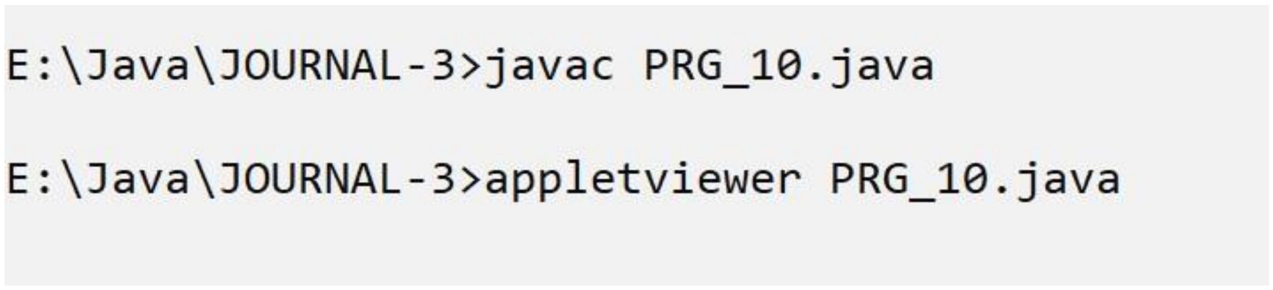
```
E:\Java\JOURNAL-3>javac PRG_09.java

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
```