SAVITRIBAI PHULE PUNE UNIVERSITY

T. Y. B. B. A. (C.A.) SEMESTER - V

(CBCS 2019 PATTERN)

PRACTICAL SLIP

NAME : LALIT DEVIDAS PATIL

COLLEGE NAME: SINHGAD COLLEGE OF ARTS & COMMERCE WARJE PUNE-58

ROLL NO : 106 DIVISION:B SEAT NO: | | | | | |

ACADEMIC YEAR : 2024-25

Certificate

This is to certify that
Mr. PATIL LALIT DEVIDAS

Seat Number_____of T.Y.BBA(CA) Sem - V has Successfully completed Laboratory course (Core Java) in the Year . He has scored mark out of 10 (For Lab Book).

Subject Teacher **H.O.D./Coordinator**

Internal Examiner **External Examiner**

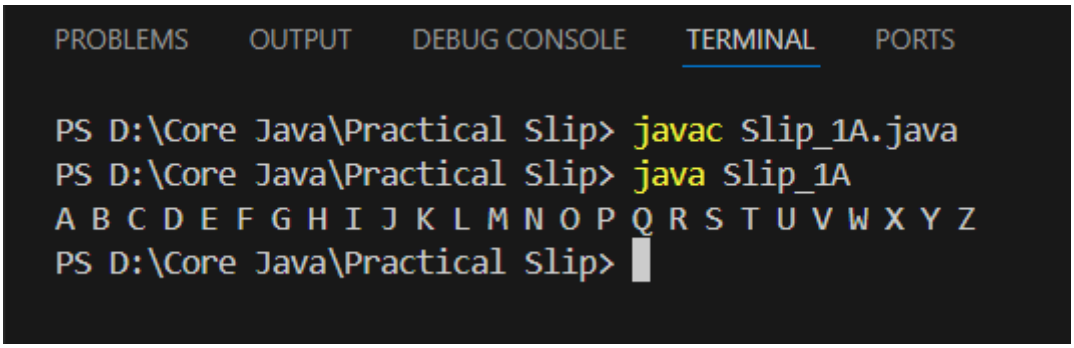
Slip 1

A) Write a 'java' program to display characters from 'A' to 'Z'.

```
public class Slip_1A {
   public static void main(String[] args) {

      for (char letter = 'A'; letter <= 'Z'; letter++) {
         System.out.print(letter + " ");
      } }}
```

Output

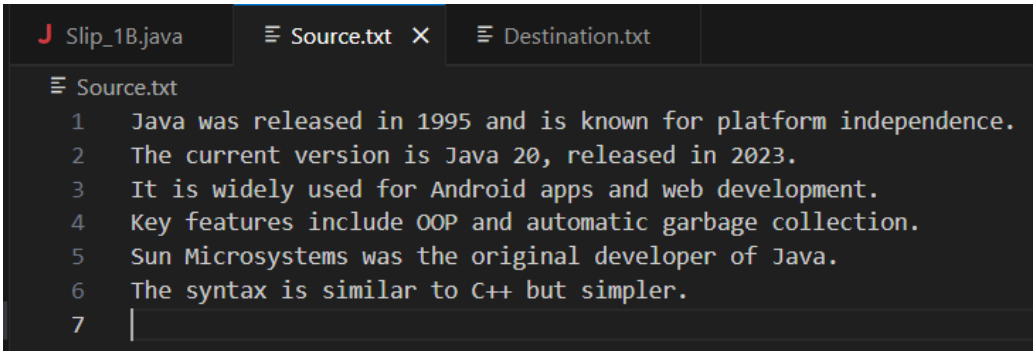


B) Write a 'java' program to copy only non-numeric data from one file to another file.

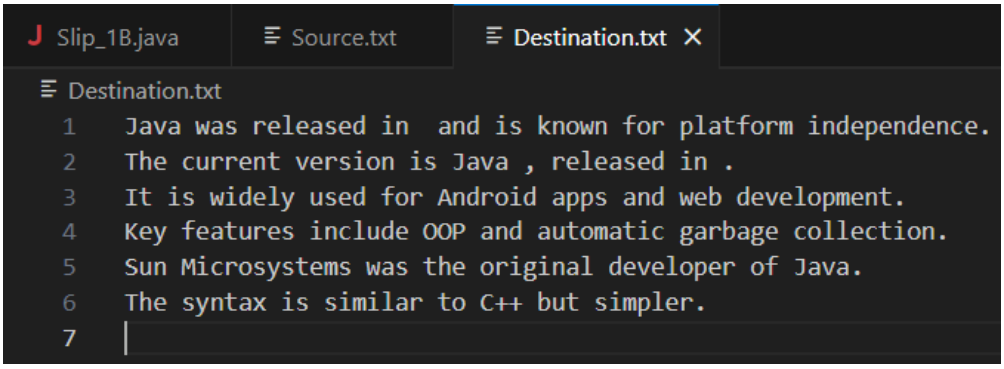
```
import java.io.*;
public class Slip_1B {
   public static void main(String[] args) {
      String sourceFile = "Source.txt";
      String destinationFile = "Destination.txt";
      try {
         FileReader reader = new FileReader(sourceFile);
         FileWriter writer = new FileWriter(destinationFile);
         int character;
         while ((character = reader.read()) != -1) {
            if (!Character.isDigit(character)) {
               writer.write(character);
            }
         }
```

```
            reader.close();
            writer.close();
            System.out.println("Non-numeric data copied successfully!");
        } catch (IOException e) {
            System.out.println("An error occurred: " + e.getMessage());
        }
    }
}
```

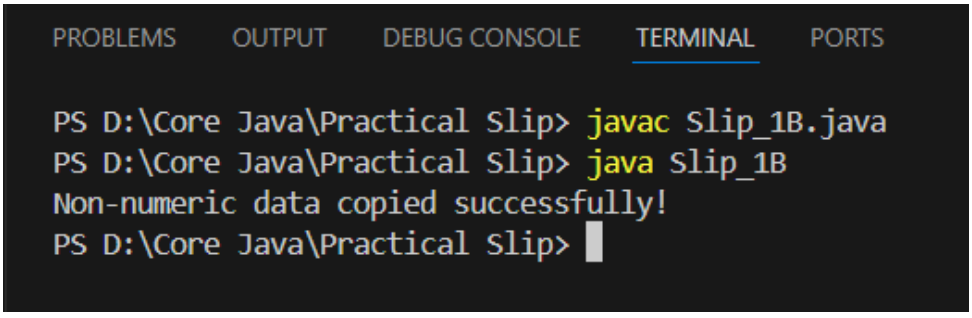
Source.txt



Destination.txt



Output

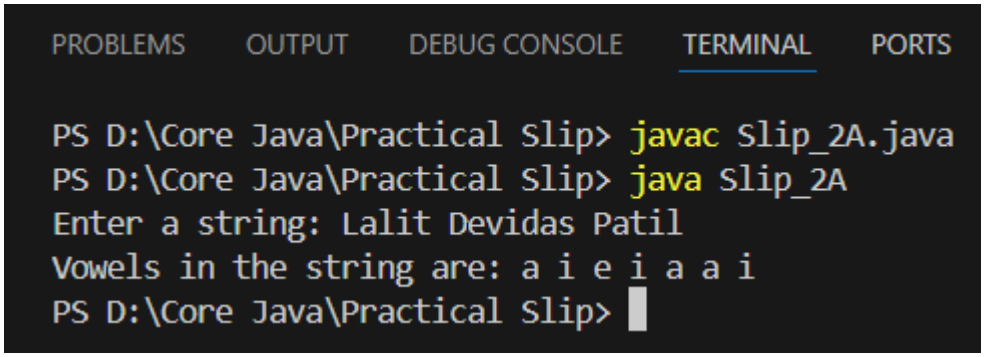


Slip 2

A) Write a java program to display all the vowels from a given string.

```
import java.util.Scanner;
public class Slip_2A {
        public static void main(String[] args) {
            Scanner scanner = new Scanner(System.in);
            System.out.print("Enter a string: ");
            String input = scanner.nextLine();
            input = input.toLowerCase();
            System.out.print("Vowels in the string are: ");
            for (int i = 0; i < input.length(); i++) {
                char ch = input.charAt(i);
                if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 
'u') {
                    System.out.print(ch + " ");
                }
            }
            scanner.close();
        }
    }
```

Output

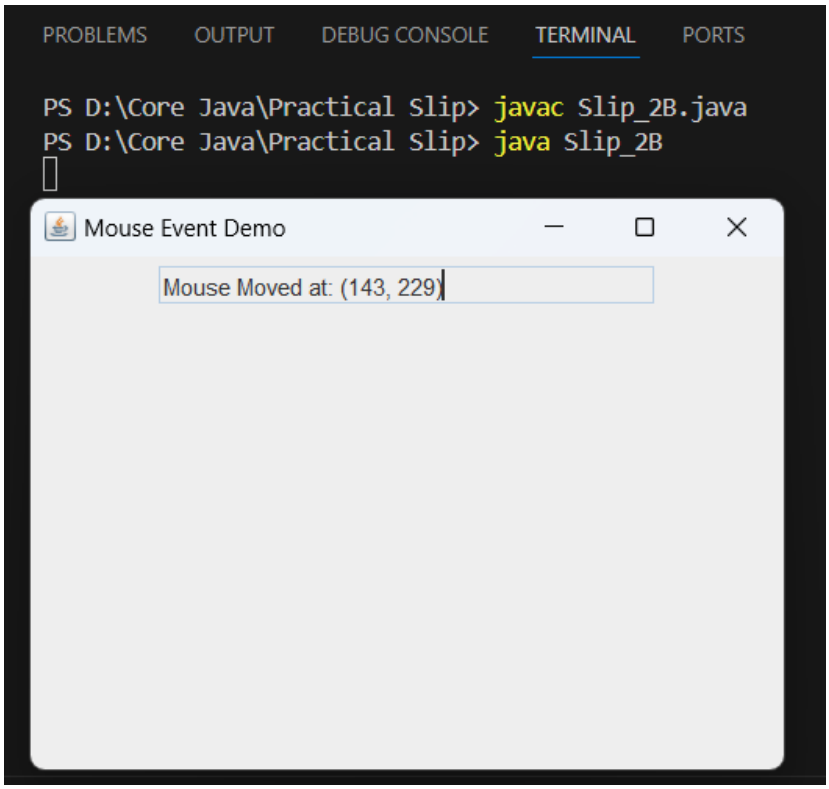


B) Design a screen in Java to handle the Mouse Events such as MOUSE_MOVED and MOUSE_CLICK and display the position of the Mouse_Click in a TextField.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
public class Slip_2B extends JFrame implements MouseListener, MouseMotionListener {
   private JTextField textField;
   public Slip_2B() {
      setTitle("Mouse Event Demo");
      setSize(400, 300);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      setLayout(new FlowLayout());
      textField = new JTextField(25);
      textField.setEditable(false);
      add(textField);
      addMouseListener(this);
      addMouseMotionListener(this);
      setVisible(true);
   }
   @Override
   public void mouseClicked(MouseEvent e) {
        textField.setText("Mouse Clicked at: (" + e.getX() + ", " + e.getY() + ")");
   }
   @Override
   public void mouseMoved(MouseEvent e) {
        textField.setText("Mouse Moved at: (" + e.getX() + ", " + e.getY() + ")");
   }
   @Override
   public void mousePressed(MouseEvent e) {}
   @Override
   public void mouseReleased(MouseEvent e) {}
   @Override
   public void mouseEntered(MouseEvent e) {}
   @Override
```

```
    public void mouseExited(MouseEvent e) {}
    @Override
    public void mouseDragged(MouseEvent e) {}
    public static void main(String[] args) {
        new Slip_2B();
    }
}
```

Output

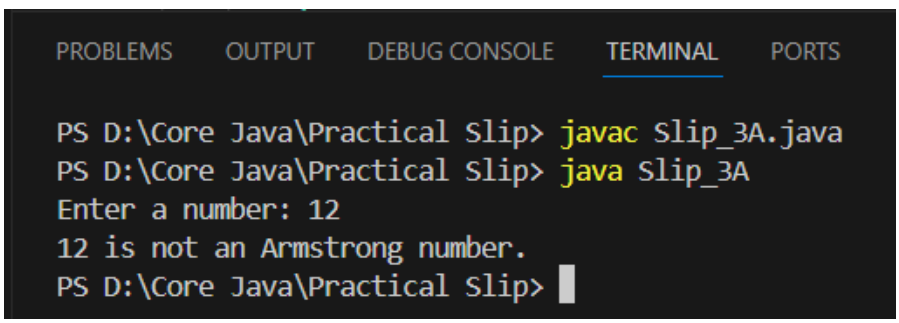


Slip *3*

A) Write a 'java' program to check whether given number is Armstrong or not. (Use static keyword)

```
import java.util.Scanner;
public class Slip_3A {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = scanner.nextInt();
        if (isArmstrong(number)) {
            System.out.println(number + " is an Armstrong number.");
        } else {
            System.out.println(number + " is not an Armstrong
number.");
        }
        scanner.close();
    }
    public static boolean isArmstrong(int num) {
        int originalNumber = num;
        int sum = 0;
        int length = String.valueOf(num).length();
        while (num != 0) {
            int digit = num % 10;
            sum += Math.pow(digit, length);
            num /= 10;
        }
        return sum == originalNumber;
    }}
```

Output



B) Define an abstract class Shape with abstract methods area () and volume (). Derive abstract class Shape into two classes Cone and Cylinder. Write a java Program to calculate area and volume of Cone and Cylinder.(Use Super Keyword.).

```
 import java.util.Scanner;
abstract class Shape{
    int a,b;
    Shape(int x, int y){
        a = x;
        b = y;
    }
    abstract double area();
    abstract double volume();
}
class Cone extends Shape{
    Cone(int x, int y){
        super(x,y);
    }
    double area(){
        return (a*b*3.14);
    }
    double volume(){
        return (3.14*a*a*b);
    }
}
class Cylinder extends Shape{
    Cylinder(int x, int y){
        super(x,y);
    }
    double area(){
        return (2*3.14*a*b*3.14*a*b);
    }
    double volume(){
        return (3.14*a*a*b);
    }
}
```

```
class Slip3B{
   public static void main(String args[]) throws Exception{
      int r,h,s;
      Scanner scan = new Scanner(System.in);
      System.out.println("Enter Radius, Height and Side Values : ");
      r = scan.nextInt();
      h = scan.nextInt();
      s = scan.nextInt();
      Shape s1;
      Cone c1 = new Cone(r,s);
      s1=c1;
         System.out.println("Area of Cone  is : " + s1.area());
         System.out.println("Volume of Cone is : " +s1.volume());
      Cylinder cy = new Cylinder(r,h);
      s1 =cy;
         System.out.println("Area of Cylinder  is : " + s1.area());
         System.out.println("Area of Cylinder  is : " + s1.volume());
   }
}
```

Output