PACKAGES PROGRAMS

i)

code:

```
import java.awt.*;
import java.awt.event.*;

 public class SimpleAWTApp {
    SimpleAWTApp() {
        Frame frame = new Frame("AWT Example");
        Button button = new Button("Click Me!");

        button.setBounds(50, 100, 80, 30);
        frame.add(button);

        frame.setSize(300, 200);
        frame.setLayout(null);
        frame.setVisible(true);

        frame.addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent e) {
                frame.dispose();
            }
```

```
        });
    }

    public static void main(String[] args) {
        new SimpleAWTApp();
    }
}
```

ii)

code:

```
                #package
package mypackage;

public class basiccalc {
    public int add(int a, int b) {
        return a + b;
    }
    public int sub(int a, int b) {
        return a - b;
    }
    public int mul(int a, int b) {
```

```
        return a * b;
    }
    public int div(int a, int b) {
        if (b == 0) {
            System.out.println("Denominator with 0 is not defined
or infinite");
            return 0;
        }
        else {
            return a / b;
        }
    }
}
import mypackage.basiccalc;

public class calc {
    public static void main(String[] args) {
        basiccalc c1=new basiccalc();

        System.out.println("the sum is"+c1.add(2,3));
    }
}
```

iii)

code:

#package

```
package mypackage;
public class geometery {

    public double areaRectangle(double lenght,double breath){
        return lenght*breath;
    }
    public double areaCircle(double radius){
        return 3.14*(radius*radius);
    }
    public double areaTriangle(double lenght,double height){
        return 0.5*(lenght+height);
    }
}

import java.lang.*;
import java.util.Scanner;
import mypackage.geometery;
public class geometerycal {
    public static void main(String[] args) {
```

```
        Scanner input=new Scanner(System.in);
        geometery a1=new geometery();
        System.out.println("Enter the lenght of Rectangle");
        double lenght=input.nextDouble();
        System.out.println("Enter the Breath of Rectangle");
        double breath=input.nextDouble();
        System.out.println("Area of Rectangle");
       System.out.println(a1.areaRectangle(lenght, breath));
        System.out.println("Enter the radius of Circle");
        double radius=input.nextDouble();
        System.out.println("Area of Circle");
        System.out.println(a1.areaCircle(radius));
        System.out.println("Enter lenght of triangle");
        double tlength=input.nextDouble();
        System.out.println("Enter height of triangle");
        double height=input.nextDouble();
        System.out.println("Area of Triangle");
        System.out.println(a1.areaTriangle(tlength, height));
    }
}
```

iv)

code:

```
import java.util.*;
import java.time.*;
import java.io.*;

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

        try {
            System.out.print("Enter number of employees: ");
            int numEmployees = scanner.nextInt();
            scanner.nextLine();

            ArrayList<Employee> employees = new ArrayList<>();

            for (int i = 0; i < numEmployees; i++) {
                System.out.println("\nEmployee " + (i + 1) + ":");

                System.out.print("Enter name: ");
                String name = scanner.nextLine();
```

```
            System.out.print("Enter salary: ");
            double salary = scanner.nextDouble();

            System.out.print("Enter joining year: ");
            int joiningYear = scanner.nextInt();
            scanner.nextLine();

            employees.add(new Employee(name, salary,
joiningYear));
        }

        FileWriter writer = new
FileWriter("EmployeePayroll.txt");

        System.out.println("\n--- Employee Payroll ---");
        writer.write("--- Employee Payroll ---\n");

        for (Employee emp : employees) {
            emp.calculateBonus();
            emp.displayDetails();
            writer.write(emp.getDetailsForFile());
```

```
            }

            writer.close();
            System.out.println("\nPayroll saved to 'EmployeePayroll.txt'");

        } catch (IOException e) {
            System.out.println("An error occurred while writing to the file.");
        } catch (InputMismatchException e) {
            System.out.println("Invalid input. Please enter numbers correctly.");
        }

        scanner.close();
    }
}

class Employee {
    private String name;
    private double salary;
    private int joiningYear;
    private double bonus;
```

```
    public Employee(String name, double salary, int
joiningYear) {
        this.name = name;
        this.salary = salary;
        this.joiningYear = joiningYear;
    }

    public void calculateBonus() {
        int currentYear = LocalDate.now().getYear();
        int yearsWorked = currentYear - joiningYear;

        if (yearsWorked >= 5) {
            bonus = salary * 0.1;
        } else {
            bonus = salary * 0.05;
        }
    }

    public void displayDetails() {
        System.out.println("Employee: " + name);
        System.out.println("Salary: ₹" + salary);
```

```
        System.out.println("Joining Year: " + joiningYear);
        System.out.println("Bonus: ₹" + bonus);
        System.out.println("Total Salary: ₹" + (salary + bonus));
        System.out.println();
    }

    public String getDetailsForFile() {
        return "Employee: " + name + "\n" +
               "Salary: ₹" + salary + "\n" +
               "Joining Year: " + joiningYear + "\n" +
               "Bonus: ₹" + bonus + "\n" +
               "Total Salary: ₹" + (salary + bonus) + "\n\n";
    }
}
```