Thadomal Shahani Engineering College

Bandra (W.), Mumbai- 400 050.

CERTIFICATE

Certify that Mr./~~Miss~~ Punav Sanjay Shigwan of IT Department, Semester III with Roll No. 112 has completed a course of the necessary experiments in the subject Javaprog Lab (SBL) under my supervision in the **Thadomal Shahani Engineering College** Laboratory in the year 2023 - 2024

Teacher In-Charge

Head of the Department

Date 28/10/23

Principal

TSEC

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PUNAV SHIGWAN S23 112

AIM :- Implement a Java program to calculate gross salary and net

Salary taking the following input: empno, empname, basic Process:

Da =70% of basic, HRA=30% of basic, CCA = Rs. 240/-, PF=10% of basic,

PT = Rs. 100/-.

PROGRAM:-

```
import java.util.Scanner;
public class Salary
{
public static void main(String args[])
{
scanner sc = new Scanner(System.in);
system.out.println(“enter the employee name”);
string name = sc.nextLine();
system.out.println(“enter the employee number”);
double en = sc.nextInt();
system.out.println(“enter the employee salary”);
double bs = sc.nextInt();
double da = 0.7 * bs;
double hra = 0.3*bs;
double ca =  240;
double pf = 0.1*bs;
double pt = 100;
double net = bs+da+hra+ca;
double gross = bs+da+hra+ca-pf-pt;
system.out.println(net);
system.out.println(gross);
}
}
```

OUTPUT:-

```
enter the employee name:sahil
enter the employee number: 112
enter the employee salary
50000
1000240.0
95140.0
```

2. Menu Driven

```
import java.util.Scanner;
class expt2 {
public static void main(String[] args) {
Scanner s = new Scanner(System.in);
System.out.println("Enter Number: ");
int num = s.nextInt();
boolean quit = false;
while (!quit) {
System.out.println("Enter a choice: \n1. Factorial\n2. Test If Armstrong\n" + "3. Test if Palindrome\n4.
Test if Prime\n5. Test if in fibonacci series\n6. Print "+ num+" Numbers in Fibonnaci Series\n7. Quit");
int choice = s.nextInt();
switch (choice) {
case 1:
factorial(num);
break;
case 2:
testArmstrong(num);
break;
case 3:
```

```
testPalindrome(num);
break;
case 4:
testPrime(num);
break;
case 5:
testFibonacci(num);
break;
case 6:
printFibonacciSeries(num);
break;
default:
quit = true;
break;
}
}
}
public static void factorial(int n) {
if (n<0) {
System.out.println("Invalid No.");
 }
else if (n == 0 || n==1) {
System.out.println("Factorial of " + n + " is 1");
 }
else {
int ans = 1;
for (int i = 2; i<= n; i++) {
ans = ans * i;
 }
```

```
System.out.println("Factorial of " + n + " is " + ans);
}
}
public static void testArmstrong(int n) {
int rem,num, sum = 0;
num = n;
while (num != 0) {
rem = num%10;
num /= 10;
sum += rem*rem*rem;
}
if (sum == n) {
System.out.println(n + " is an Armstrong No.");
}
else {
System.out.println(n + " is not an Armstrong Number");
}
}
public static void testPalindrome(int n) {
int rem,num, newNum = 0;
num = n;
while (num != 0) {
rem = num%10;
num /= 10;
 if (newNum == 0) {
newNum = rem;
}
else {
newNum *= 10;
```

```
newNum += rem;
}
}
 if (newNum == n) {
System.out.println(n +" is a Palindrome");
}
 else {
System.out.println(n +" is not a Palindrome");
}
}
public static void testPrime(int n) {
boolean prime = true;
for (int i = 2; i<=n/2; i++) {
if (n%i == 0) {
prime = false;
break;
}
}
if (prime) {
System.out.println(n + " is a Prime No.");
}
else {
System.out.println(n + " is not a Prime No.");
}
}
public static void printFibonacciSeries(int n) {
int num1=0, num2=1, num3;
System.out.println("");
 if (n == 0) {
```

```
System.out.print(0 + " ");
}
if (n==1) {
}
else {
System.out.print(0 + " ");
System.out.print(1 + " ");
for (int i = 1; i<=n-2; i++) {
num3 = num1 + num2;
num1 = num2;
num2 = num3;
System.out.print(num3 + " ");
}
}
System.out.println(" ");
}
public static void testFibonacci(int n) {
int num1=0, num2=1, num3;
boolean found = false;
 while (num1 <= n) {
if (num1 == n || num2 == n) {
found = true;
break;
}
num3 = num1 + num2;
num1 = num2;
num2 = num3;
}
if (found) {
```

```
System.out.println("The number " + n + " is a fibonacci number");
}
else {
System.out.println("The number " + n + " is not a fibonacci number");
}
}
}
```

3.calculator

```
import java.awt.*;
import java.awt.event.*;
public class Calc extends Frame implements ActionListener
{
Label l1= new Label(“First Number”);
Label l2= new Label(“Second Number”);
Label l3= new Label(“Result is :”);
TextField t1 =new TextField();
TextField t2 =new TextField();
TextField t3 =new TextField();
Button b1= new Button(“Add”);
Button b2= new Button(“Sub”);
Button b3= new Button(“Mul”);
Button b4= new Button(“Div”);
Button b5= new Button(“Mod”);
Button b6= new Button(“Can”);
Calc()
{
 l1.setBounds (30,50,120,30);
```

```
l2.setBounds (30,100,120,30);
l3.setBounds (30,150,120,30);
add(l1);
add(l2);
add(l3);
t1.setBounds(180,50,150,30);
t2.setBounds(180,100,150,30);
t3.setBounds(180,150,150,30);
add(t1);
add(t2);
add(t3);
b1.setBounds (30,200,50,30);
b2.setBounds (80,200,50,30);
b3.setBounds (130,200,50,30);
b4.setBounds (180,200,50,30);
b5.setBounds (230,200,50,30);
b6.setBounds (280,200,50,30);
b1.addActionListener(this);
b2.addActionListener(this);
b3.addActionListener(this);
b4.addActionListener(this);
b5.addActionListener(this);
b6.addActionListener(this);
add(b1);
add(b2);
add(b3);
add(b4);
add(b5);
add(b6);
```

```
setSize(360,280);
setSize(360,280);
setLayout(null);
setVisible(true);
setTitle(“Calculator”);
}
public void actionPerformed(ActionEvent e)
{
int n1= Integer.parseInt(t1.getText());
int n2= Integer.parseInt(t2.getText());
if(e.getSource()==b1)
{
t3.setText(String.valueOf(n1+n2));
}
if(e.getSource()==b2)
{
t3.setText(String.valueOf(n1-n2));
}
if(e.getSource()==b3)
{
t3.setText(String.valueOf(n1*n2));
}
if(e.getSource()==b4)
{
t3.setText(String.valueOf(n1/n2));
}
if(e.getSource()==b5)
{
t3.setText(String.valueOf(n1%n2));
```

```
}
if(e.getSource()==b6)
{
System.exit(0);
}
}
public static void main (String[]args)
{
Calc c = new Calc();
}
}
```

4. Student form

```
import javax.swing.*;
import java.awt.event.*;
class Studentform extends JFrame implements ActionListener
{
JLabel l1,l2,l3,l4,l5;
JTextField tx1,tx2;
JRadioButton rb1,rb2;
JComboBox cb;
JCheckBox cb1,cb2,cb3;
JButton b;
JTextArea area;
Studentform()
{
JFrame f=new JFrame(“STUDENT FORM”);
JLabel l1=new JLabel (“NAME”);
```

```
l1.setBounds(20,20,80,30);
tx1 = new JTextField();
tx1.setBounds(100,20,150,30);
f.add(l1);
f.add(tx1);
JLabel l2=new JLabel (“MOBILE NO.”);
l2.setBounds(20,70,120,30);
tx2 = new JTextField();
tx2.setBounds(100,70,150,30);
f.add(l2);
f.add(tx2);
JLabel l3=new JLabel(“GENDER”);
l3.setBounds(20,120,80,30);
rb1=new JRadioButton(“Male”);
rb1.setBounds(100,120,60,30);
rb2=new JRadioButton(“Female”);
rb2.setBounds(180,120,100,30);
ButtonGroup bg =new ButtonGroup();
bg.add(rb1);
bg.add(rb2);
f.add(rb1);
f.add(rb2);
f.add(l3);
 JLabel l4=new JLabel(“AGE”);
l4.setBounds(20,165,80,30);
String age[]={“18”,”19”,”20”,”21”,”22”,”23”,”24”,”25”};
cb=new JComboBox(age);
cb.setBounds(100,170,90,20);
f.add(l4);
```

```
f.add(cb);
JLabel l5=new JLabel(“Hobbies”);
l5.setBounds(20,215,50,30);
f.add(l5);
 cb1=new JCheckBox(“Reading”);
cb1.setBounds(100,220,100,30);
cb2=new JCheckBox(“Singing”);
cb2.setBounds(200,220,100,30);
cb3=new JCheckBox(“Dancing”);
cb3.setBounds(250,220,100,30);
f.add(cb1);
f.add(cb2);
f.add(cb2);
JButton b=new JButton(“SUBMIT”);
b.setBounds(140,280,120,20);
f.add(b);
area=new JTextArea();
area.setBounds(30,320,320,100);
f.add(area);
b.addActionListener(this);
setDefaultCloseOperation(EXIT_ON_CLOSE);
f.setLayout(null);
f.setVisible(true);
f.setSize(500,500);
}
public void actionPerformed(ActionEvent e)
{
String name=tx1.getText();
String mobile=tx2.getText();
```

```
String gender=rb1.isSelected()?”MALE”:rb2.isSelected()?”FEMALE”:”-“;
String age=cb.getItemAt(cb.getSelectedIndex()).toString();
String hobby=” “;
if(cb1.isSelected())
{
hobby=hobby+” “+”Reading”;
}
if(cb2.isSelected())
{
hobby=hobby+” “+”Singing”;
}
if(cb3.isSelected())
{
hobby=hobby+” “+”Dancing”;
}
area.setText(“Name:”+name+”\n”+”Mobile No:”+mobile+”\n”+”Gender: “+gender+”\n”+”AGE:
“+age+”\n”+”Hobbies:”+hobby);
}
 public static void main(String[] args)
 {
 new Studentform();
 }
}
```

5. Menubar Notepad

```
import javax.swing.*;
import java.awt.event.*;
public class NotepadSwing implements ActionListener
```

```
{
JFrame f;
JMenuBar mb;
JMenu file,edit,help;
JMenuItem cut,copy,paste,selectAll;
JTextArea ta;
NotepadSwing()
{
f=new JFrame();
mb=new JMenuBar();
f.setJMenuBar(mb);
f.add(mb);
file=new JMenu("File");
edit=new JMenu("Edit");
help=new JMenu("Help");
mb.add(file);
mb.add(edit);
mb.add(help);
cut=new JMenuItem("Cut");
copy=new JMenuItem("Copy");
paste=new JMenuItem("Paste");
selectAll=new JMenuItem("selectAll");
edit.add(cut);
edit.add(copy);
edit.add(paste);
edit.add(selectAll);
cut.addActionListener(this);
copy.addActionListener(this);
paste.addActionListener(this);
```

```
selectAll.addActionListener(this);
ta=new JTextArea();
ta.setBounds(30,30,360,320);
f.add(ta);
f.setSize(400,400);
f.setVisible(true);
f.setLayout(null);
}
public void actionPerformed(ActionEvent e)
{
if(e.getSource()==cut)
ta.cut();
if(e.getSource()==paste)
ta.paste();
if(e.getSource()==copy)
ta.copy();
if(e.getSource()==selectAll)
ta.selectAll();
}
public static void main(String args[])
{
new NotepadSwing();
}
}
```

6. Java interface

```
interface vehicle
{
void brake();
```

```
void tyre();
void move();
}
class bike implements vehicle
{
public void brake() { System.out.println("bike brakes are working");}
public void tyre() { System.out.println("bike tyres are fine");}
public void move() { System.out.println("bike moves");}
}
class car implements vehicle
{
public void brake() { System.out.println("car brakes are fine");}
public void tyre() { System.out.println("car tyres are fine");}
public void move() { System.out.println("car moves");}
}
class bicycle implements vehicle
{
public void brake() { System.out.println("bicycle brakes are fine");}
public void tyre() { System.out.println("bicycle tyres are fine");}
public void move() { System.out.println("bicycle moves");}
}
class auto
{
public static void main(String args[])
{
bike a=new bike();
a.brake();
a.tyre();
a.move();
```

```
car b=new car();
b.brake();
b.tyre();
b.move();
bicycle c=new bicycle();
c.brake();
c.tyre();
c.move();
}
}
```

OUTPUT

```
bike brakes are working
bike tyres are fine
bike moves
car brakes are fine
car tyres are fine
car moves
bicycle brakes are fine
bicycle tyres are fine
bicycle moves
```

7. Exception handling

```
public class MethodOverloadingExample {
// Method with two integer parameters
public int add(int a, int b) {
return a + b;
}
// Method with three integer parameters
```

```
public int add(int a, int b, int c) {
return a + b + c;
}
// Method with two double parameters
public double add(double a, double b) {
return a + b;
}
// Method with a String parameter
public String concatenate(String str1, String str2) {
return str1 + str2;
}
public static void main(String[] args) {
MethodOverloadingExample example = new MethodOverloadingExample();
// Calling the methods with different parameter lists
int sum1 = example.add(5, 10);
int sum2 = example.add(5, 10, 15);
double sum3 = example.add(2.5, 3.7);
String concat = example.concatenate("Hello, ", "world!");
System.out.println("Sum 1: " + sum1);
System.out.println("Sum 2: " + sum2);
System.out.println("Sum 3: " + sum3);
System.out.println("Concatenation: " + concat);
}
}
```

8. Vectors and strings

Program 1:

```
import java.util.*;
```

```
class Vectordemo
{
public static void main(String[] args)
{
Vector v= new Vector(); //default vector size as 10
System.out.println("Size of vector is "+v.size()); //Vector
v=new Vector(100)-------ector size is 100
//Vector v= new Vector(int size,int
increment)
v.add(1);
v.add(2);
v.add("Java");
v.add("for begineers");
v.add(3);
System.out.println("Vector is"+ v);
System.out.println("Vector size is "+v.size());
System.out.println();
v.add(0,5);
v.add(1,4);
v.add(2,"java");
v.add(3,"Vectors");
v.add(4,1);
System.out.println("Vectors is "+ v);
System.out.println("size of vector "+v.size());
System.out.println();
v.add(1,9);
v.add(2,8);
System.out.println("Vectors is "+v);
System.out.println("size of vector "+v.size());
```

```
}
}
```

PROGRAM 2:

```
import java.util.*;
class Vectordemo2
{
public static void main(String args[])
{
ArrayList arr= new ArrayList();
arr.add(3);
arr.add("Information");
arr.add("Technology");
arr.add(7);
Vector v=new Vector();
//copying all element of array list into vector
v.addAll(arr);
//checking vector v
System.out.println("Vector v:"+ v);
System.out.println();
v.clear();
System.out.println("Vector v:"+v);
}
}
```

PROGRAM 3:

```
import java.util.*;
class Vectordemo3
{
public static void main(String args[])
{
```

```
Vector v=new Vector();
Vector v_clone=new Vector();
v.add(0,1);
v.add(1,2);
v.add(2,"PUNAV");
v.add(3,4);
v.clear();
v_clone=(Vector)v.clone();
System.out.println("Clone of v:"+v_clone);
}
}
```

STRINGS:

```
public class ProgramString{
public static void main(String[] args){
 String s1= "SAHIL is myname";
String s2= "Im in java lab";
String s3= "SAHIL is my name";
String s4= "I will learning java";
System.out.println(" The length of the string s1 :" +s1.length());
System.out.println(" The length of the string s2 :" +s2.length());
System.out.println(" The length of the string s3 :" +s3.length());
System.out.println(" The length of the string s4 :" +s4.length());
System.out.println(" The index of the string s1 :" +s1.charAt(3));
System.out.println(" The index of the string s2 :" +s2.charAt(4));
System.out.println(" The index of the string s3 :" +s3.charAt(5));
System.out.println(" The index of the string s4 :" +s4.charAt(6));
System.out.println(" The uppercase of the string s1 :"
+s1.toUpperCase());
System.out.println(" The lowercase of the string s1 :"
```

```
+s1.toLowerCase());
System.out.println(" The uppercase of the string s2 :"
+s2.toUpperCase());
System.out.println(" The lowercase of the string s2 :"
+s2.toLowerCase());
System.out.println(" The uppercase of the string s3 :"
+s3.toUpperCase());
System.out.println(" The lowercase of the string s3 :" +s3.toLowerCase());
System.out.println(" The uppercase of the string s4 :"
+s4.toUpperCase());
System.out.println(" The lowercase of the string s4 :"
+s4.toLowerCase());
System.out.println(" The concatination of the string s1 :"
+s1.concat(s2));
System.out.println(" The concatination of the string s2 :"
+s2.concat(s3));
System.out.println(" The concatination of the string s3 :"
+s3.concat(s4));
System.out.println(" The concatination of the string s4 :"
+s4.concat(s1));
System.out.println(" The substring of the string s1 :"
+s1.substring(9,11));
System.out.println(" The substring of the string s2 :"
+s2.substring(6,10));
System.out.println(" The substring of the string s3 :"
+s3.substring(0,5));
System.out.println(" The substring of the string s4 :"
+s4.substring(3,11));
System.out.println(" The replacement of the string s1 :"
```

```
+s1.replace("my","his"));
System.out.println(" The replacement of the string s2 :"
+s2.replace("in","outside"));
System.out.println(" The replacement of the string s3 :"
+s3.replace( "SAHIL","sahil"));
System.out.println(" The replacement of the string s4 :"
+s4.replace("learning","pursuing"));
System.out.println("Te index of the string s1 "+s1.indexOf('n'));
System.out.println("Te index of the string s1 "+s2.indexOf('j'));
System.out.println("Te index of the string s1 "+s3.indexOf('M'));
System.out.println("Te index of the string s1 "+s4.indexOf('a'));
String s5= "" , s6= "";
s5=s1.replace("SAHIL","SAHIL");
s6=s1.concat("he is best");
System.out.println("Te index of the string s1 "+s5);
System.out.println("Te index of the string s1 "+s6);
}
}
```

9. Usage of constructor in java

```
public class Person {
 // Member variables
 Strring name;
 int age;
 // Constructor with parameters
 public Person(String name, int age) {
 this.name = name;
 this.age = age;
```

```
}
// Constructor without parameters (default constructor)
public Person() {
// Initialize with default values
this.name = “John Doe”;
this.age = 30;
}
// Method to display person’s information
public void displayInfo() {
System.out.println(“Name: “ + name);
System.out.println(“Age: “ + age);
}
public static void main(String[] args) {
// Creating objects using constructors
person person1 = new Person(“Alice”, 25);
person person2 = new Person();
// Displaying information
System.out.println(“Person 1:”);
person1.displayInfo();
System.out.println(“\nPerson 2:”);
person2.displayInfo();
}
}
```

10. Area of rectangle

```
import java.util.Scanner;
public class AreaOfRectangle {
public static void main(String args[]){
int length, breadth, area;
```

```
 Scanner sc = new Scanner(System.in);
 System.out.println(“Enter the length of the rectangle ::”);
 length = sc.nextInt();
 System.out.println(“Enter the breadth of the rectangle ::”);
 breadth = sc.nextInt();
 area = length* breadth;
 System.out.println(“Area of the rectangle is ::”+area);
 }
}
```

11. Inheritance: Book

```
interface vehicle
{
void brake();
void tyre();
void move();
}
class bike implements vehicle
{
public void brake() { System.out.println("bike brakes are fine");}
public void tyre() { System.out.println("bike tyres are fine");}
public void move() { System.out.println("bike moves");}
}
class car implements vehicle
{
public void brake() { System.out.println("car brakes are fine");}
public void tyre() { System.out.println("car tyres are fine");}
public void move() { System.out.println("car moves");}
```

```
}
class bicycle implements vehicle
{
public void brake() { System.out.println("bicycle brakes are fine");}
public void tyre() { System.out.println("bicycle tyres are fine");}
public void move() { System.out.println("bicycle moves");}
}
class auto
{
public static void main(String args[])
{
bike a=new bike();
a.brake();
a.tyre();
a.move();
car b=new car();
b.brake();
b.tyre();
b.mov();
bicycle c=new bicycle();
c.brake();
c.tyre();
c.move();
}
}
```

12. Packages

```
package letscalculate;
```

```
public class Calci
{
public int add(int a,int b)
{
return a+b;
}
public int sub(int a,int b)
{
return a-b;
}
public int mult(int a,int b)
{
return a*b;
}
public int div(int a,int b)
{
return a/b;
}
public int mod(int a,int b)
{
return a%b;
}
}
// CHECKING
import letscalculate.*;
public class Check
{
public static void main(String args[]){
Calci obj=new Calci();
```

```
System.out.println(obj.add(1,4));
System.out.println(obj.sub(1,5));
System.out.println(obj.mult(6,2));
System.out.println(obj.div(2,8));
System.out.println(obj.mod(2,8));
}
}
```

OUTPUT

```
5
-4
12
0
2
```

13. IO Streams

```
import java.io.*;
class IOstreams
{
public static void main(String[] args) throws IOException
{
String text;
BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
System.out.println("Enter First number");
text = br.readLine();
int a=Integer.parseInt(text);
System.out.println("Enter second number");
text = br.readLine();
int b=Integer.parseInt(text);
```

```
int c=a+b;
System.out.println("The sum is : " + c);
}
}
```

OUTPUT

```
Enter First number
10
Enter second number
15
The sum is : 25
```

14. Java FX

```
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.PasswordField;
import javafx.scene.control.TextField;
import javafx.scene.layout.VBox;
import javafx.stage.Stage;
public class FirstjavaFX extends Application{
 @Override
 public void start(Stage primaryStage) throws Exception {
 VBox vb = new VBox();
 vb.setSpacing(10);
```

```
 vb.setAlignment(Pos.CENTER);
 Label l1 = new Label("Your Username");
 TextField tx1= new TextField();
 tx1.setMaxWidth(160);
Label l2 = new Label("Your Password");
 PasswordField tx2 = new PasswordField();
 tx2.setMaxWidth(160);

 Button button = new Button("LOGIN");
 TextField tx3= new TextField();
 tx3.setMaxWidth(160);

 vb.getChildren().addAll(l1,tx1,l2,tx2,button,tx3);
button.setOnAction(new EventHandler<ActionEvent>() {
@Override
public void handle(ActionEvent arg0) {
String userName = tx1.getText();
String password = tx2.getText();
 if (userName.equals("TSEC") && password.equals("bandra")) {
 tx3.setText(" Login successful");
 } else {
 tx3.setText(" invalid user");

 }
 }
);
 Scene scene=new Scene(vb,600,400);
 primaryStage.setTitle("First JavaFX Application");
 primaryStage.setScene(scene);
```

```
primaryStage.show();

}

public static void main (String[] args)

{

launch(args);

}

}
```

15. Written assignment

MPR : CUSTOMER_INFO PAGE

Code:

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class CUSTOMER_INFO {
   public static void main(String[] args) {
      JFrame frame = new JFrame("Customer Information");
      frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      frame.setSize(700, 400);

      JPanel panel = new JPanel();
      panel.setLayout(new GridLayout(6, 2, 10, 10)); // Add some spacing

      // Create labels and text fields
      JLabel nameLabel = new JLabel("Customer Name:");
      JTextField nameField = new JTextField(20);

      JLabel dateLabel = new JLabel("Date:");
      JTextField dateField = new JTextField(20);

      JLabel seatLabel = new JLabel("Seat No:");
      JTextField seatField = new JTextField(20);

      JLabel mobileLabel = new JLabel("Mobile Number:");
      JTextField mobileField = new JTextField(20);

      JLabel amountLabel = new JLabel("Amount Paid:");
      JTextField amountField = new JTextField(20);
```

```
// Create and style the Save button
JButton saveButton = new JButton("Save");
saveButton.setBackground(new Color(0, 153, 51)); // Green background
saveButton.setForeground(Color.WHITE); // White text
saveButton.setFont(new Font("Arial", Font.BOLD, 14)); // Bold and larger text

// Create and style the Show Seat Matrix button
JButton seatMatrixButton = new JButton("Show Seat Matrix");
seatMatrixButton.setBackground(new Color(0, 102, 204)); // Blue background
seatMatrixButton.setForeground(Color.WHITE); // White text
seatMatrixButton.setFont(new Font("Arial", Font.BOLD, 14)); // Bold and larger text

// Create and style the text area
JTextArea textArea = new JTextArea(10, 40);
textArea.setFont(new Font("Arial", Font.PLAIN, 14)); // Set the font size
textArea.setBackground(new Color(255, 255, 204)); // Pale yellow background
textArea.setForeground(Color.BLACK); // Black text

// Create a panel for seat selection buttons
JPanel seatSelectionPanel = new JPanel(new GridLayout(2, 5));
JButton[] seatButtons = new JButton[10];
String[] seatData = {
   "Seat 1: Window",
   "Seat 2: Aisle",
   "Seat 3: Middle",
   "Seat 4: Window",
   "Seat 5: Aisle",
   "Seat 6: Middle",
   "Seat 7: Window",
   "Seat 8: Aisle",
   "Seat 9: Middle",
   "Seat 10: Window"
};

for (int i = 0; i < seatButtons.length; i++) {
   seatButtons[i] = new JButton("Seat " + (i + 1));
   final int buttonIndex = i;
   seatButtons[i].addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
         seatField.setText(seatData[buttonIndex]);
      }
   });
   seatSelectionPanel.add(seatButtons[i]);
}

// Add components to the panel
```

```
panel.add(nameLabel);
panel.add(nameField);
panel.add(dateLabel);
panel.add(dateField);
panel.add(seatLabel);
panel.add(seatField);
panel.add(mobileLabel);
panel.add(mobileField);
panel.add(amountLabel);
panel.add(amountField);
panel.add(saveButton);
panel.add(seatMatrixButton);

// Add an ActionListener to the Save button
saveButton.addActionListener(new ActionListener() {
   @Override
   public void actionPerformed(ActionEvent e) {
      String data = "Customer Name: " + nameField.getText() + "\n"
            + "Date: " + dateField.getText() + "\n"
            + "Seat No: " + seatField.getText() + "\n"
            + "Mobile Number: " + mobileField.getText() + "\n"
            + "Amount Paid: " + amountField.getText() + "\n";

      textArea.append(data);
```

```
            clearFields(nameField, dateField, mobileField, amountField);
        }
    });

    // Add an ActionListener to the Show Seat Matrix button
    seatMatrixButton.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            // Display seat matrix information in the JTextArea
            String seatMatrixData = "Seat Matrix:\n"; // Add your seat matrix data here
            textArea.append(seatMatrixData);
        }
    });

    // Add components to the main panel
    JPanel mainPanel = new JPanel();
    mainPanel.setLayout(new BorderLayout());
    mainPanel.add(panel, BorderLayout.NORTH);
    mainPanel.add(new JScrollPane(textArea), BorderLayout.CENTER);

    frame.add(mainPanel);
    frame.add(seatSelectionPanel, BorderLayout.EAST);
    frame.setVisible(true);
}
```

```
    // Helper method to clear text fields
    private static void clearFields(JTextField... fields) {
        for (JTextField field : fields) {
            field.setText("");
        }
    }
}
```