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**MINI PROJECT**

**BANK MANAGEMENT SYSTEM**

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**ABSTRACT**

The Bank Management System is an application for maintaining a person's account in a bank. In this project we tried to show the working of a banking account system and cover the basic functionality of a Bank Management System.

To develop a project for solving financial applications of a customer in banking environment in order to nurture the needs of an end banking user by providing various ways to perform banking tasks. Also, to enable the user’s work space to have additional functionalities which are not provided under a conventional banking project. The Bank Account Management System undertaken as a project is based on relevant technologies. The main aim of this project is to develop software for Bank Account Management System. This project has been developed to carry out the processes easily and quickly, which is not possible with the manuals systems, which are overcome by this software. This project is developed using PHP, HTML language and MYSQL use for database connection. Creating and managing requirements is a challenge of IT, systems and product development projects or indeed for any activity where you have to manage a contractual relationship. Organization needs to effectively define and manage requirements to ensure they are meeting needs of the customer, while proving compliance and staying on the schedule and within budget. The impact of a poorly expressed requirement can bring a business out of compliance or even cause injury or death. Requirement’s definition and management is an activity that can deliver a high, fast return on investment. The project analyses the system requirements and then comes up with the requirements specifications. It studies other related systems and then come up with system specifications. The system is then designed in accordance with specifications to satisfy the requirements. The system design is then implemented with MYSQL, PHP and HTML. The system is designed as an interactive and content management system. The content management system deals with data entry, validation confirm and updating whiles the interactive system deals with system interaction with the administration and users. Thus, above features of this project will save transaction time and therefore increase the efficiency of the system

**INTRODUCTION**

**1.1 COMPANY OVERVIEW**

**HCL Technologies** is an Indian [multinational](https://en.wikipedia.org/wiki/Multinational_corporation) [technology](https://en.wikipedia.org/wiki/Technology) [company](https://en.wikipedia.org/wiki/Company) that specializes in [information technology](https://en.wikipedia.org/wiki/Information_technology) (IT) [services](https://en.wikipedia.org/wiki/Service_(economics)) and [consulting](https://en.wikipedia.org/wiki/Information_technology_consulting), headquartered in [Noida](https://en.wikipedia.org/wiki/Noida), [Uttar Pradesh](https://en.wikipedia.org/wiki/Uttar_Pradesh), [India](https://en.wikipedia.org/wiki/India). It is a subsidiary of HCL Enterprise. Originally a [research and development](https://en.wikipedia.org/wiki/Research_and_development) division of HCL, it emerged as an independent company in 1991 when HCL entered into the software services business.[[8]](https://en.wikipedia.org/wiki/HCL_Technologies#cite_note-8) The company has offices in 32 countries including [United Kingdom](https://en.wikipedia.org/wiki/United_Kingdom), [United States](https://en.wikipedia.org/wiki/United_States), [France](https://en.wikipedia.org/wiki/France), and [Germany](https://en.wikipedia.org/wiki/Germany) with a worldwide network of R&D, "innovation labs" and "delivery centre’s", over 159,000 employees and its customers include 250 of the Fortune 500 and 650 of the Global 2,000 companies.

It operates across sectors including aerospace and Défense, automotive, banking, capital markets, chemical and process industries, energy and utilities, healthcare, hi-tech, industrial manufacturing, consumer goods, insurance, life sciences, manufacturing, media and entertainment, mining and natural resources, oil and gas, retail, telecom, and travel, transportation, logistics & hospitality.

HCL Technologies is on the [Forbes Global 2000](https://en.wikipedia.org/wiki/Forbes_Global_2000) list.  It is among the top 20 largest publicly traded companies in India with a market capitalisation of $21.5 billion as of May 2019.  As of July 2020, the company, along with its subsidiaries, had a consolidated annual revenue of [₹](https://en.wikipedia.org/wiki/Indian_rupee)71,265 [crore](https://en.wikipedia.org/wiki/Crore) (US$10 billion)

### HCL Enterprise

HCL Enterprise was founded in 1976.

The first three subsidiaries of parent HCL Enterprise were:

* HCL Technologies - originally HCL's R&D division, it emerged as a subsidiary in 1991
* HCL Infosystems
* HCL Healthcare

The company tried to stay focused on hardware, but, via HCL Technologies, software and services is a main focus.

Revenues for 2007 were US$4.9 billion.

Revenues for 2017 were US$6.5 billion, and HCL employed over 105,000 professionals in 31 countries.

Revenues for 2018 were US$9 billion, and HCL employed over 110,000 professionals in 31 countries. A unit named HCL Enterprise Solutions (India) Limited was formed in July 2001.

Currently HCL Technologies is a subsidiary of Vamasundari Delhi through a chain of entities in between. Vamasundari (Delhi) is owned by Shiv Nadar and it in turns holds majority of shares in most HCL group companies.

On 1 July 2019, HCL Technologies acquired a select few products of [IBM](https://en.wikipedia.org/wiki/IBM). HCL Technologies took the full ownership of research and development, sales, marketing, delivery, and support for [AppScan](https://en.wikipedia.org/wiki/Security_AppScan), [BigFix](https://en.wikipedia.org/wiki/BigFix_Inc), [Commerce](https://en.wikipedia.org/wiki/WebSphere_Commerce), [Connections](https://en.wikipedia.org/wiki/IBM_Connections), Digital Experience ([Portal](https://en.wikipedia.org/wiki/WebSphere_Portal) and Content Manager), [Notes Domino](https://en.wikipedia.org/wiki/IBM_Notes), and Unica.

### Formation and early years

In 1976, a group of six engineers, all former employees of [Delhi Cloth & General Mills](https://en.wikipedia.org/wiki/Delhi_Cloth_%26_General_Mills), led by [Shiv Nadar](https://en.wikipedia.org/wiki/Shiv_Nadar), started a company that would make personal computers. Initially floated as *Microcomb Limited*, Nadar and his team (which also included [Arjun Malhotra](https://en.wikipedia.org/wiki/Arjun_Malhotra_(entrepreneur)), Ajai Chowdary, D.S. Puri, Yogesh Vaidya and Subhash Arora) started selling tele digital calculators to gather capital for their main product. On 11 August 1976, the company was renamed Hindustan Computers Limited (HCL).

On 12 November 1991, a company called HCL Overseas Limited was incorporated as a provider of technology development services. It received the certificate of commencement of business on 10 February 1992 after which it began its operations. Two years later, in July 1994, the company name was changed to HCL Consulting Limited and eventually to HCL Technologies Limited in October 1999.

HCL Technologies is one of the four companies under HCL Corporation, the second company being [HCL Infosystems](https://en.wikipedia.org/wiki/HCL_Technologies#HCL_Infosystems). In February 2014 HCL launched HCL Healthcare.  HCL Talent Care is the fourth and latest venture of HCL Corporation.

HCL Technologies began as the R&D Division of HCL Enterprise, a company which was a contributor to the development and growth of the IT and computer industry in India. HCL Enterprise developed an indigenous microcomputer in 1978, and a networking OS and client-server architecture in 1983.  On 12 November 1991, HCL Technologies was spun off as a separate unit to provide software services.

HCL Technologies was originally incorporated as HCL Overseas Limited. The name was changed to HCL Consulting Limited on 14 July 1994. On 6 October 1999, the company was renamed 'HCL Technologies Limited' for "a better reflection of its activities."  Between 1991 and 1999, the company expanded its software development capacities to US, European and APAC markets.

### IPO and subsequent expansion

The company went public on 10 November 1999, with an issue of 1.42 crore (14.2 million) shares, valued at ₹4 each. During 2000, the company set up an offshore development centre in [Chennai](https://en.wikipedia.org/wiki/Chennai), India, for [KLA-Tencor Corporation](https://en.wikipedia.org/wiki/KLA-Tencor).

In 2002, it acquired Gulf Computers Inc.

In March 2021, HCL Technologies expands partnership with [Google Cloud](https://en.wikipedia.org/wiki/Google_Cloud) to bring HCL Software's Digital Experience (DX) and Unica Marketing cloud-native platforms to Google Cloud.

**Project Description**

## It is an application for maintaining a person's account in a bank.

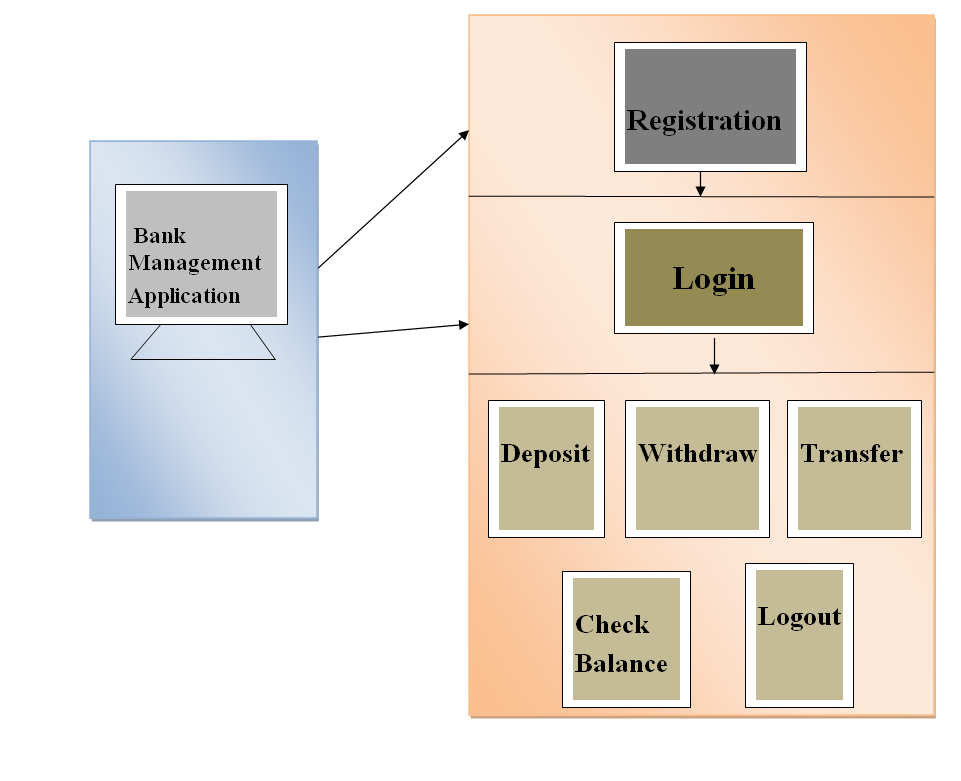
## Banking interface is primarily designed for balance inquiry, transfer of funds to another account in the same bank, along with deposit and withdrawal.

## It enables customers of a bank or other financial institution to conduct a range of financial transactions.

## **ARCHITECTURE:**

The project contains the following modules:

* Registration
* Login
* Deposit
* Withdrawal
* Transfer
* Check Balance
* Logout



## **MAJOR MODULES OF BANKING MANAGEMENT SYSTEM:**

### Customer:

These are the main source of the business for the bank. The number of the customer will improve the position in the market. There are different types of the customers from the common people to the business man and everyone has an account on the priority of they require it. The different types customers are:

Individual Account holders

Joint account holders

Partnership firm holders

Limited liability companies

Clubs and Associations

Trusts

These are the persons or group which can have the account on the bank for their individual or business or non-profit work.

### Account:

very customer will become a customer when they open an account in the bank start depositing the money or take some other service. Account enables the customer to take advantage of the facilities provided by the bank.

Every customer has their unique account number and the bank will identify you by only that account number. The account number will be same for all the branch for that particular bank.

This will hold the balance in account, interest which is provided by the bank to that customer and if the customer is active this will be defined by the last transaction done by the customer for ex.

The saving account usually remains active for 6 months with no transaction after that it needs to be reactivated. Further the types of account a customer can have are:

Saving Accounts

Current Account

Checking Accounts

This is some types of accounts users can have according to their use and priority. All different types of account have their own benefit for the customer.

Some other things a customer can opt are a locker or fixed deposits.

### Transactions:

Every time an account holder performs some activity on the account it will be updated through transactions this is like logs but only showing the required details.

Any time a customer makes any changes in an account like pay or deposit it will be through transactions. This help in keeping the track of cash flow in the bank.

Also, help in managing the correct information if there is some data loss to the bank side or if there is any query at the customer side.

### Bank Employees:

Even after all the digitization of the bank, there will always be a requirement of an eligible employee for the correct management of events.

Employees are the backbone of any bank and to manage the number of employees we have this module. Their information will be kept separately from the customers.

All the employees will get their unique employee id similar through all branches of the bank. They will have a different level of clearance to get information.

All will be provided with secret authentication details required to log in on their respective systems to work so no other person can interfere with their working ground.

It will give the idea in which department they working and what is their designation while working there.

**SCOPE OF THE PROJECT**

**SCOPE:**

* Creating New Accounts- The application can be used to create two different types of accounts by the customers, which are Savings Account and Current Account. It helps save the hustle for the customer to visit the bank physically and create/use these accounts.
* Depositing Money- As the world is moving towards the limited use of paper currency, depositing or transferring money from one bank to the other will become as easy as clicking a few buttons using this application.
* Withdrawing Money- Requests can be sent through the application to ask for money transfer as well.
* Account Holder List- This is a feature for the admin. The admin can view the list of all the account holders.
* Balance Enquiry- The customer can check their balance via this application.
* Changing Passwords/PIN- The customer can easily change the passwords and pin numbers using the application.
* Closing- The customer can close their accounts too using this application.

**NON-SCOPE:**

* OTP system can be added for authentication, during withdrawal and transfer.
* E-Payment modules can also be added to make it more useful.
* It can be made online mode, to make transactions more efficient.

**TECHNICAL REQUIREMENT SPECIFICATIONS**

**ECLIPSE:**Eclipse is an integrated development environment used in computer programming. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications.

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**MYSQL:**

MySQL Enterprise Edition includes the most comprehensive set of advanced features, management tools and technical support to achieve the highest levels of MySQL scalability, security, reliability, and uptime. It reduces the risk, cost, and complexity in developing, deploying, and managing business-critical MySQL applications.

**Java Database Connectivity (JDBC):**

JDBC stands for Java Database Connectivity, which is a standard Java API for database-independent connectivity between the Java programming language and a wide range of databases.



**3.CODING**

***Deposit.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class Deposit extends JFrame{

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

private JTextField amount;

private JButtonbtnNewButton;

private String str;

private String email;

private String data;

private JButton btnNewButton1;

public Deposit(String str,Stringemail,String data) {

this.str=str;

this.email=email;

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5,5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabel lblAmount1 = new JLabel("Deposit");

lblAmount1.setFont(new Font("Tahoma", Font.PLAIN, 35));

lblAmount1.setBounds(420, 70, 250, 26);

contentPane.add(lblAmount1);

JLabellblAmount = new JLabel("Enter Amount");

lblAmount.setFont(new Font("Tahoma", Font.PLAIN, 30));

lblAmount.setBounds(270, 250, 250, 26);

contentPane.add(lblAmount);

amount = new JTextField();

amount.setFont(new Font("Tahoma", Font.PLAIN, 32));

amount.setBounds(490, 240, 228, 50);

contentPane.add(amount);

amount.setColumns(10);

btnNewButton = new JButton("OK");

btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton.setBounds(300,380,200,60);

btnNewButton.setBackground(Color.GREEN);

contentPane.add(btnNewButton);

btnNewButton1 = new JButton("Cancel");

btnNewButton1.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton1.setBounds(600,380,200,60);

btnNewButton1.setBackground(Color.RED);

contentPane.add(btnNewButton1);

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

String bal1=amount.getText();

if(bal1.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Amount");

}

if(bal1.matches("^[a-zA-Z]\*$")){

JOptionPane.showMessageDialog(btnNewButton, "Invalid Amount");

}

Integer i=Integer.parseInt(bal1);

Integer i1=Integer.parseInt(data);

int u=i+i1;

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

String query="UPDATE account SET Balance="+"'"+u+"'"+" Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

int x=sta.executeUpdate(query);

if(x!=0) {

new Module(str,email).setVisible(true);

String msg="Your Account is credited for Rs."+i;

JOptionPane.showMessageDialog(new Module(str,email).b2, msg);

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

btnNewButton1.addActionListener(new ActionListener(){

public void actionPerformed(ActionEvent ae) {

new Module(str,email).setVisible(true);

}

});

}

}

***Module.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class Module extends JFrame{

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

public JButton b1;

public JButton b2;

public JButton b3;

private JButton b4;

public JButton b5;

private String str;

private String email;

public Module(String str,String email){

this.str=str;

this.email=email;

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5,5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabel label=new JLabel("Welcome "+"'"+str+"'");

label.setFont(new Font("Tahoma",Font.PLAIN,35));

label.setBounds(300,30,700,40);

contentPane.add(label);

b1 =new JButton("Deposit");

b1.setFont(new Font("Tahoma",Font.PLAIN,25));

b1.setBounds(200,130, 200, 74);

b1.setBackground(Color.GREEN);

contentPane.add(b1);

b2 =new JButton("Withdraw");

b2.setFont(new Font("Tahoma",Font.PLAIN,25));

b2.setBounds(650,130, 200, 74);

b2.setBackground(Color.GREEN);

contentPane.add(b2);

b3 =new JButton("Transfer");

b3.setFont(new Font("Tahoma",Font.PLAIN,25));

b3.setBounds(200,300, 200, 74);

b3.setBackground(Color.GREEN);

contentPane.add(b3);

b4 =new JButton("Check\_balance");

b4.setFont(new Font("Tahoma",Font.PLAIN,25));

b4.setBounds(650,300, 200, 74);

b4.setBackground(Color.GREEN);

contentPane.add(b4);

b5 =new JButton("Log out");

b5.setFont(new Font("Tahoma",Font.PLAIN,25));

b5.setBounds(420,450, 200, 74);

b5.setBackground(Color.GREEN);

contentPane.add(b5);

b2.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

String query="SELECT Balance FROM account Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

while(results.next()) {

String data=results.getString(1);

new Withdraw(str,email,data).setVisible(true);

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

b5.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

new UserLogin().setVisible(true);

}

});

b3.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

String query="SELECT Balance FROM account Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

while(results.next()) {

String data=results.getString(1);

new Transfer(str,email,data).setVisible(true);

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

b4.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

String query="SELECT Balance FROM account Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

while(results.next()) {

String data=results.getString(1);

String msg="Hello "+str+"\nyour Balance is Rs."+data;

new Deposit(str,email,data);

JOptionPane.showMessageDialog(b4, msg);

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

b1.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

String query="SELECT Balance FROM account Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

while(results.next()) {

String data=results.getString(1);

new Deposit(str,email,data).setVisible(true);

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

}

}

***Transfer.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class Transfer extends JFrame{

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

private JTextField mob;

private JTextField amount;

private JButtonbtnNewButton;

private JButton btnNewButton1;

private String str;

private String email;

private String data;

public Transfer(String str,Stringemail,String data) {

this.str=str;

this.email=email;

this.data=data;

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5,5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabel lblAmount1 = new JLabel("Transfer");

lblAmount1.setFont(new Font("Tahoma", Font.PLAIN, 35));

lblAmount1.setBounds(420, 70, 250, 26);

contentPane.add(lblAmount1);

JLabellblMobileNumber = new JLabel("Mobile number");

lblMobileNumber.setFont(new Font("Tahoma", Font.PLAIN, 30));

lblMobileNumber.setBounds(250, 150, 250, 26);

contentPane.add(lblMobileNumber);

mob = new JTextField();

mob.setFont(new Font("Tahoma", Font.PLAIN, 32));

mob.setBounds(490, 130, 228, 50);

contentPane.add(mob);

mob.setColumns(10);

JLabellblAmount = new JLabel("Amount");

lblAmount.setFont(new Font("Tahoma", Font.PLAIN, 30));

lblAmount.setBounds(250, 250, 250, 26);

contentPane.add(lblAmount);

amount = new JTextField();

amount.setFont(new Font("Tahoma", Font.PLAIN, 32));

amount.setBounds(490, 250, 228, 50);

contentPane.add(amount);

amount.setColumns(10);

btnNewButton = new JButton("Send");

btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton.setBounds(300,380,200,60);

btnNewButton.setBackground(Color.GREEN);

contentPane.add(btnNewButton);

btnNewButton1 = new JButton("Cancel");

btnNewButton1.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton1.setBounds(600,380,200,60);

btnNewButton1.setBackground(Color.RED);

contentPane.add(btnNewButton1);

btnNewButton1.addActionListener(new ActionListener(){

public void actionPerformed(ActionEvent ae) {

new Module(str,email).setVisible(true);

}

});

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae){

String mob1=mob.getText();

String amount1=amount.getText();

if(amount1.matches("^[a-zA-Z]\*$")){

JOptionPane.showMessageDialog(btnNewButton, "Invalid Amount");

}

if(mob1.equals("") && amount1.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Mobile and Amount");

}

if(!mob1.equals("") && amount1.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Amount");

}

if(mob1.equals("") && !amount1.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Mobile");

}

int c=0;

Integer i1=Integer.parseInt(amount1);

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

Integer d=Integer.parseInt(data);

int h=d-i1;

if(h>=0) {

String query="SELECT Balance FROM account Where Mobile="+"'"+mob1+"'";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

while(results.next()) {

String data1=results.getString(1);

Integer i=Integer.parseInt(data1);

c++;

int u=i+i1;

String query1="UPDATE account SET Balance="+"'"+u+"'"+" Where Mobile="+"'"+mob1+"'";

Statement sta1 = connection.createStatement();

int x=sta1.executeUpdate(query1);

if(x!=0) {

new Module(str,email).setVisible(true);

String msg="Rs."+i1+" has transferred Successfully";

JOptionPane.showMessageDialog(new Module(str,email).b2, msg);

String query2="UPDATE account SET Balance="+"'"+h+"'"+" Where Email="+"'"+email+"'";

Statement sta2 = connection.createStatement();

sta2.executeUpdate(query2);

}

}

if(c==0) {

JOptionPane.showMessageDialog(btnNewButton,"Mobile Number does not exist");

}

}

if(h<0){

JOptionPane.showMessageDialog(btnNewButton,"Insufficient Balance");

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

}

}

***UserLogin.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

import java.sql.ResultSet;

import java.awt.event.\*;

import javax.swing.\*;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class UserLogin extends JFrame{

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

private JTextField email;

private JPasswordFieldpasswordField;

private JButtonbtnNewButton;

private JButton btnNewButton1;

public static void main(String[] args) {

EventQueue.invokeLater(new Runnable() {

public void run() {

try {

UserLogin frame = new UserLogin();

frame.setVisible(true);

} catch (Exception e) {

e.printStackTrace();

}

}

});

}

public static String str1;

public static String setEmail() {

return str1;

}

public static String pass;

public static String setPassword() {

return pass;

}

public UserLogin() {

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5,5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabel label=new JLabel("Welcome");

label.setFont(new Font("Tahoma",Font.PLAIN,35));

label.setBounds(480,30,180,40);

contentPane.add(label);

JLabellblEmailAddress = new JLabel("Email Add");

lblEmailAddress.setFont(new Font("Tahoma", Font.PLAIN, 25));

lblEmailAddress.setBounds(250, 100, 180, 40);

contentPane.add(lblEmailAddress);

email = new JTextField();

email.setFont(new Font("Tahoma", Font.PLAIN, 32));

email.setBounds(430,100,280,40);

contentPane.add(email);

email.setColumns(10);

JLabellblPassword=new JLabel("Password");

lblPassword.setFont(new Font("Tahoma",Font.PLAIN,25));

lblPassword.setBounds(250,160,180,100);

contentPane.add(lblPassword);

passwordField =new JPasswordField();

passwordField.setFont(new Font("Tahoma",Font.PLAIN,32));

passwordField.setBounds(430,190,280,40);

contentPane.add(passwordField);

passwordField.setColumns(10);

btnNewButton =new JButton("Login");

btnNewButton.setFont(new Font("Tahoma",Font.PLAIN,25));

btnNewButton.setBounds(200,447, 200, 74);

btnNewButton.setBackground(Color.GREEN);

contentPane.add(btnNewButton);

btnNewButton1 = new JButton("Sign Up");

btnNewButton1.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton1.setBounds(700,447,200, 74);

btnNewButton1.setBackground(Color.GREEN);

contentPane.add(btnNewButton1);

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

String emailId=email.getText();

String password=passwordField.getText();

UserLogin.str1=email.getText();

UserLogin.pass=passwordField.getText();

if(emailId.equals("") &&password.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Email & Password");

}

if(emailId.equals("") && !password.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Email");

}

if(!emailId.equals("") &&password.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Password");

}

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

if(!emailId.equals("") && !password.equals("")) {

String query="SELECT Email,Password,Name from account";

Statement sta = connection.createStatement();

ResultSet results=sta.executeQuery(query);

int a=0;

int f=0;

while(results.next()) {

String data=results.getString(1);

String data1=results.getString(2);

String data2=results.getString(3);

if(emailId.equals(data)) {

a++;

}

if(password.equals(data1)) {

f++;

}

if(emailId.equals(data) &&password.equals(data1)) {

new Module(data2,data).setVisible(true);

JOptionPane.showMessageDialog(new Module(data,data).b1, "Logged in sucessfully");

}

}

if(f==0 && a==0) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter correct credentials");

}

if(f==0 && a!=0) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter correct password");

}

if(a==0 && f!=0) {

JOptionPane.showMessageDialog(btnNewButton, "Email does not exist");

}

}

connection.close();

}

catch(Exception exception) {

exception.printStackTrace();

}

}

});

btnNewButton1.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

new UserRegistration().setVisible(true);

}

});

}

}

***UserRegistration.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class UserRegistration extends JFrame {

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

private JTextField name;

private JTextField email;

private JTextField mob;

private JTextFieldAccountNumber;

private JPasswordFieldpasswordField;

private JButtonbtnNewButton;

public static void main(String[] args) {

EventQueue.invokeLater(new Runnable() {

public void run() {

try {

UserRegistration frame = new UserRegistration();

frame.setVisible(true);

} catch (Exception e) {

e.printStackTrace();

}

}

});

}

public UserRegistration() {

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabellblNewUserRegister = new JLabel("New User Register");

lblNewUserRegister.setFont(new Font("Times New Roman", Font.PLAIN, 42));

lblNewUserRegister.setBounds(362,50,390,50);

contentPane.add(lblNewUserRegister);

JLabellblName = new JLabel("Name");

lblName.setFont(new Font("Tahoma", Font.PLAIN, 20));

lblName.setBounds(58, 152, 110, 43);

contentPane.add(lblName);

JLabellblEmailAddress = new JLabel("Email\r\n address");

lblEmailAddress.setFont(new Font("Tahoma", Font.PLAIN, 20));

lblEmailAddress.setBounds(58, 250, 148, 36);

contentPane.add(lblEmailAddress);

name = new JTextField();

name.setFont(new Font("Tahoma", Font.PLAIN, 32));

name.setBounds(214, 151, 228, 50);

contentPane.add(name);

name.setColumns(10);

email = new JTextField();

email.setFont(new Font("Tahoma", Font.PLAIN, 32));

email.setBounds(214, 250, 228, 50);

contentPane.add(email);

email.setColumns(10);

JLabel Account =new JLabel("Acc\_Num");

Account.setFont(new Font("Tahoma",Font.PLAIN,20));

Account.setBounds(350,350,150,45);

contentPane.add(Account);

AccountNumber =new JTextField();

AccountNumber.setFont(new Font("Tahoma",Font.PLAIN,32));

AccountNumber.setBounds(450,340,228,50);

contentPane.add(AccountNumber);

AccountNumber.setColumns(10);

JLabellblPassword = new JLabel("Password");

lblPassword.setFont(new Font("Tahoma", Font.PLAIN, 20));

lblPassword.setBounds(542, 152, 110, 43);

contentPane.add(lblPassword);

JLabellblMobileNumber = new JLabel("Mobile number");

lblMobileNumber.setFont(new Font("Tahoma", Font.PLAIN, 20));

lblMobileNumber.setBounds(542, 250, 139, 26);

contentPane.add(lblMobileNumber);

mob = new JTextField();

mob.setFont(new Font("Tahoma", Font.PLAIN, 32));

mob.setBounds(707, 250, 228, 50);

contentPane.add(mob);

mob.setColumns(10);

passwordField = new JPasswordField();

passwordField.setFont(new Font("Tahoma", Font.PLAIN, 32));

passwordField.setBounds(707, 152, 228, 43);

contentPane.add(passwordField);

btnNewButton = new JButton("Register");

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

String Name = name.getText();

String emailId = email.getText();

String mobileNumber = mob.getText();

int len = mobileNumber.length();

String password = passwordField.getText();

String Acc\_num= AccountNumber.getText();

int balance=0;

if(Name.equals("") &&emailId.equals("") &&password.equals("") &&Acc\_num.equals("") &&mobileNumber.equals(""))

{

JOptionPane.showMessageDialog(btnNewButton, "Please fill all the fields");

}

if (len!=10 &&len!=0) {

JOptionPane.showMessageDialog(btnNewButton, "Enter a valid mobile number");

}

if(len==10 &&Name.equals("") &&emailId.equals("") &&password.equals("") &&Acc\_num.equals("")) {

JOptionPane.showMessageDialog(btnNewButton, "Please fill all the fields");

}

String msg = "" + Name;

msg += " \n";

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

if(!Name.equals("") && !emailId.equals("") && !mobileNumber.equals("") && !password.equals("") && !Acc\_num.equals("")) {

String query = "INSERT INTO account values('" + Name + "','" + password + "','" +mobileNumber + "','" +

emailId + "','" + Acc\_num + "','" + balance + "')";

Statement sta = connection.createStatement();

int x = sta.executeUpdate(query);

if (x == 0) {

JOptionPane.showMessageDialog(btnNewButton, "This is alredy exist");

} else {

JOptionPane.showMessageDialog(btnNewButton,

"Welcome, " + msg + "Your account is sucessfully created");

new UserLogin().setVisible(true);

}

connection.close();

} }catch (Exception exception) {

exception.printStackTrace();

}

}

});

btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 22));

btnNewButton.setBounds(399, 447, 259, 74);

btnNewButton.setBackground(Color.GREEN);

contentPane.add(btnNewButton);

}

}

***Withdraw.java***

package project;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.JPasswordField;

import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;

public class Withdraw extends JFrame{

private static final long serialVersionUID = 1L;

private JPanelcontentPane;

private JTextField amount;

private JButtonbtnNewButton;

private JButton btnNewButton1;

private String str;

private String email;

private String data;

public Withdraw(String str,Stringemail,String data) {

this.str=str;

this.email=email;

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setBounds(450, 190, 1014, 597);

setResizable(true);

contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5,5));

setContentPane(contentPane);

contentPane.setLayout(null);

ColorlightBlue=new Color(0,0,182,100);

contentPane.setBackground(lightBlue);

JLabel lblAmount1 = new JLabel("Withdraw");

lblAmount1.setFont(new Font("Tahoma", Font.PLAIN, 35));

lblAmount1.setBounds(420, 70, 250, 26);

contentPane.add(lblAmount1);

JLabellblAmount = new JLabel("Enter Amount");

lblAmount.setFont(new Font("Tahoma", Font.PLAIN, 30));

lblAmount.setBounds(270, 250, 250, 26);

contentPane.add(lblAmount);

amount = new JTextField();

amount.setFont(new Font("Tahoma", Font.PLAIN, 32));

amount.setBounds(490, 240, 228, 50);

contentPane.add(amount);

amount.setColumns(10);

btnNewButton = new JButton("OK");

btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton.setBounds(300,380,200,60);

btnNewButton.setBackground(Color.GREEN);

contentPane.add(btnNewButton);

btnNewButton1 = new JButton("Cancel");

btnNewButton1.setFont(new Font("Tahoma", Font.PLAIN, 25));

btnNewButton1.setBounds(600,380,200,60);

btnNewButton1.setBackground(Color.RED);

contentPane.add(btnNewButton1);

btnNewButton1.addActionListener(new ActionListener(){

public void actionPerformed(ActionEvent ae) {

new Module(str,email).setVisible(true);

}

});

btnNewButton.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent ae) {

String bal1=amount.getText();

if(bal1.equals("") ) {

JOptionPane.showMessageDialog(btnNewButton, "Please Enter Amount");

}

if(bal1.matches("^[a-zA-Z]\*$")){

JOptionPane.showMessageDialog(btnNewButton, "Invalid Amount");

}

Integer i=Integer.parseInt(bal1);

Integer i1=Integer.parseInt(data);

int u=i1-i;

if(u<0) {

JOptionPane.showMessageDialog(btnNewButton, "Insufficient Amount");

}

try {

Class.forName("com.mysql.jdbc.Driver");

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/testing","root","");

if(u>=0) {

String query="UPDATE account SET Balance="+"'"+u+"'"+" Where Email="+"'"+email+"'";

Statement sta = connection.createStatement();

int x=sta.executeUpdate(query);

if(x!=0) {

new Module(str,email).setVisible(true);

String msg="Your Account is Debited for Rs."+i;

JOptionPane.showMessageDialog(new Module(str,email).b1, msg);

}

connection.close();

}}

catch(Exception exception) {

exception.printStackTrace();

}

}

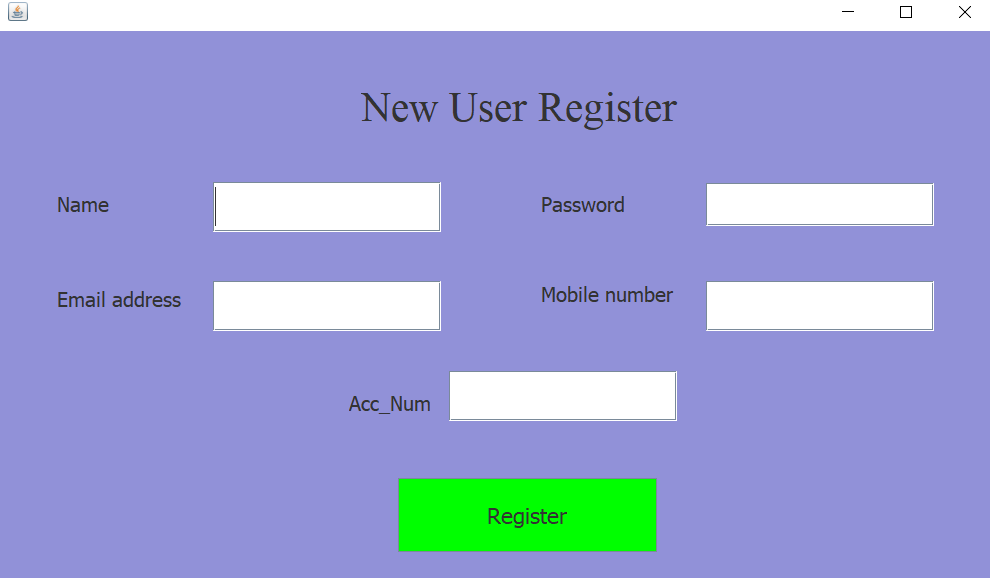
});

}

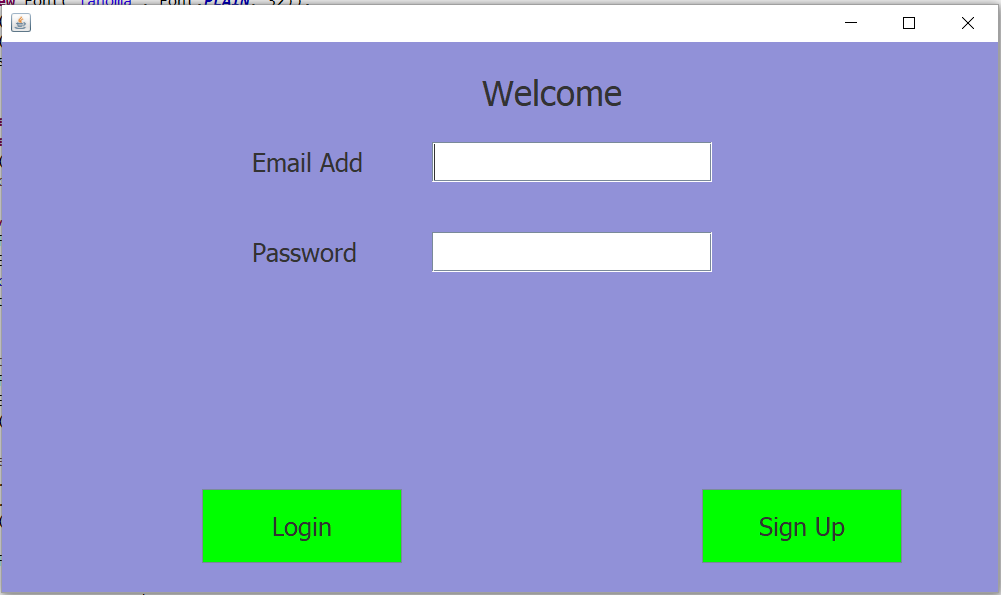
}

**4.OUTPUT SCREENSHOTS**

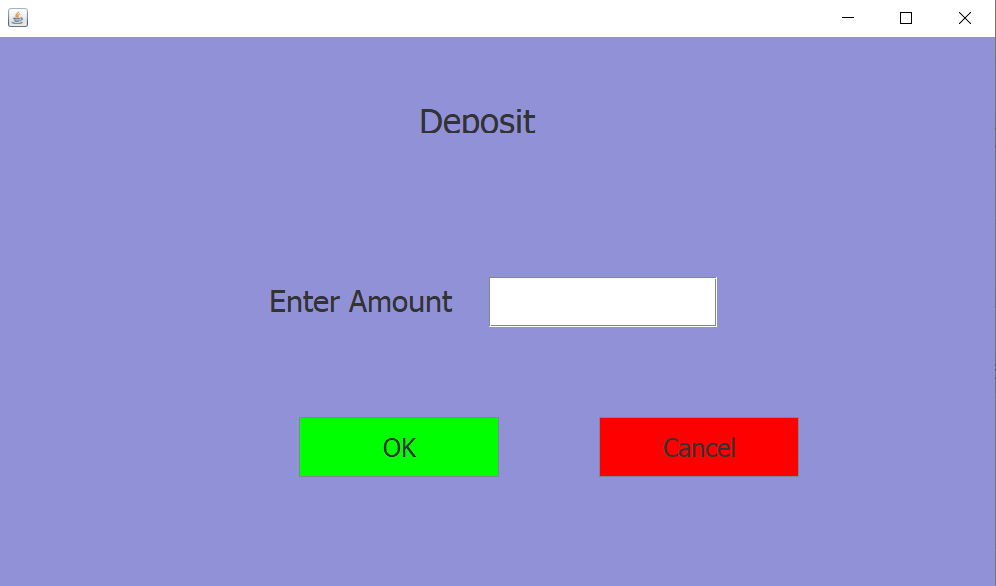
**NEW USER REGISTER:**



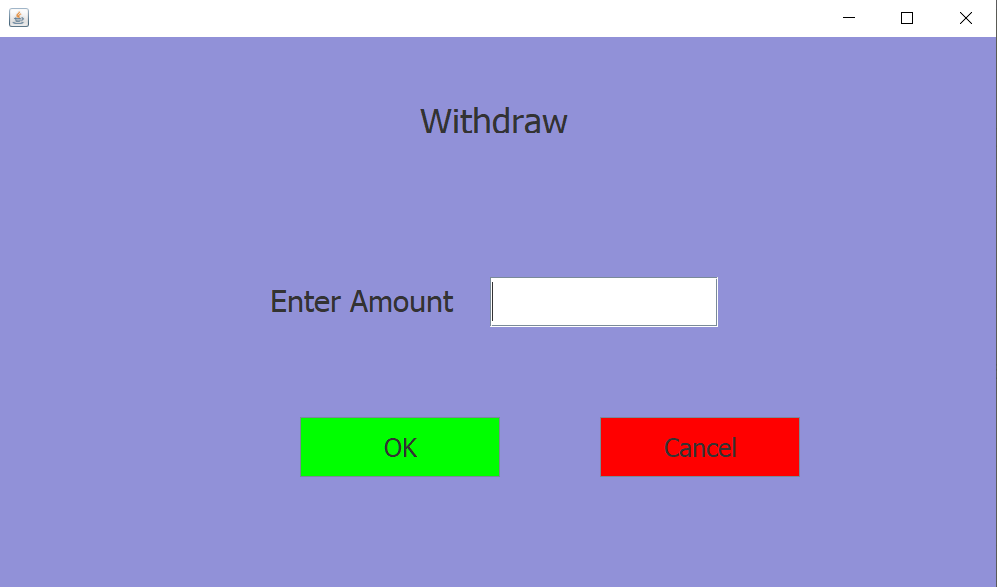
**WELCOME:**



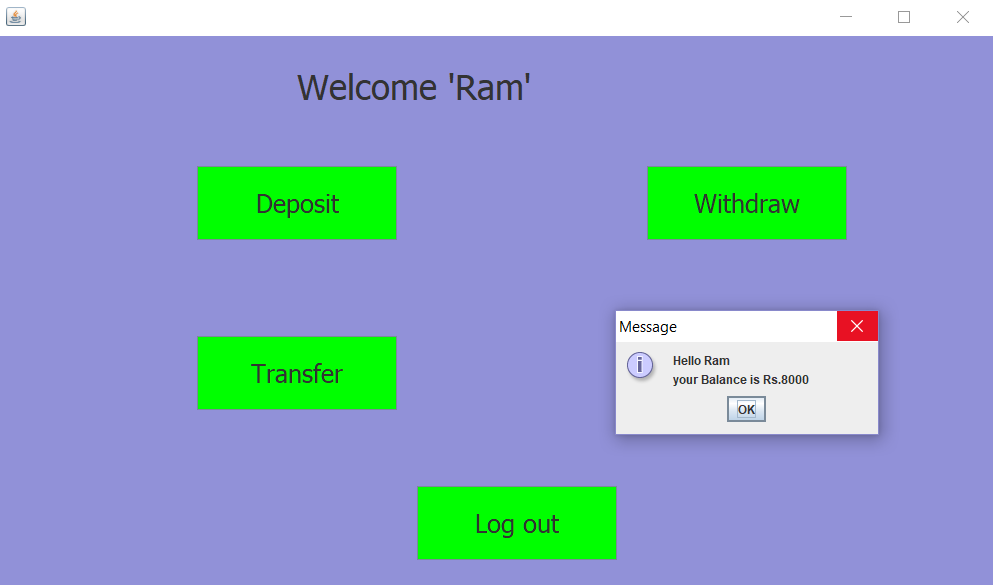
**DEPOSIT:**



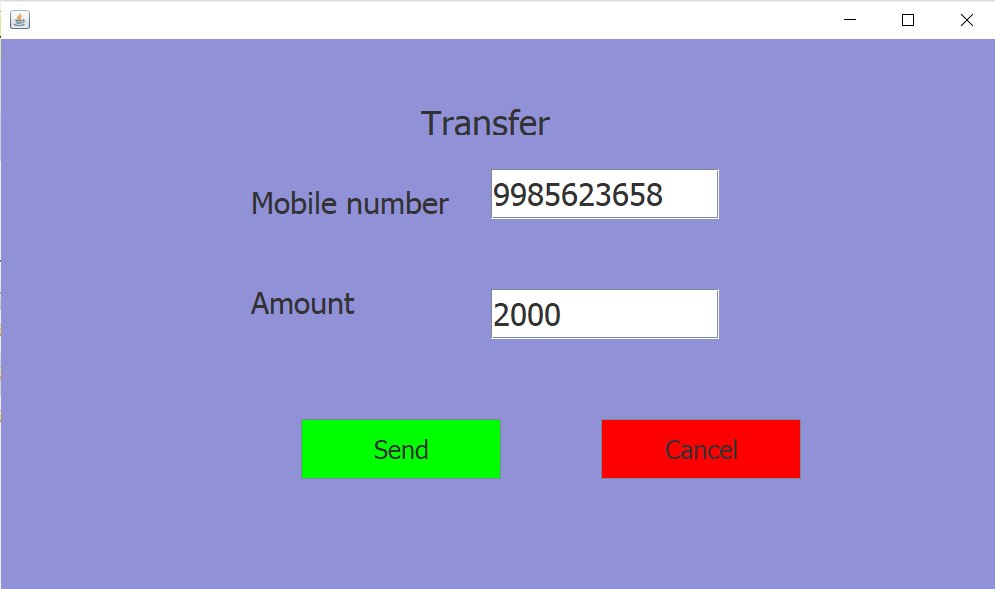
**WITHDRAW:**



**WELCOME USER:**



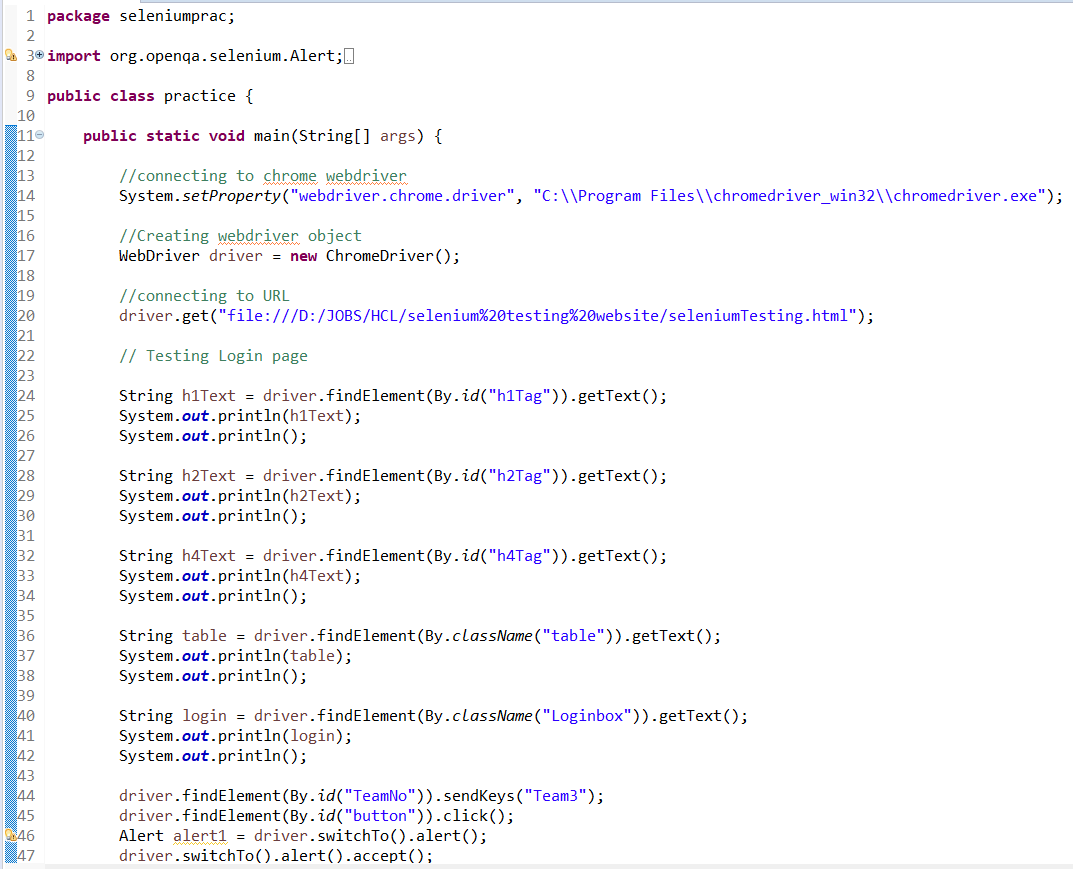
**TRANSFER:**



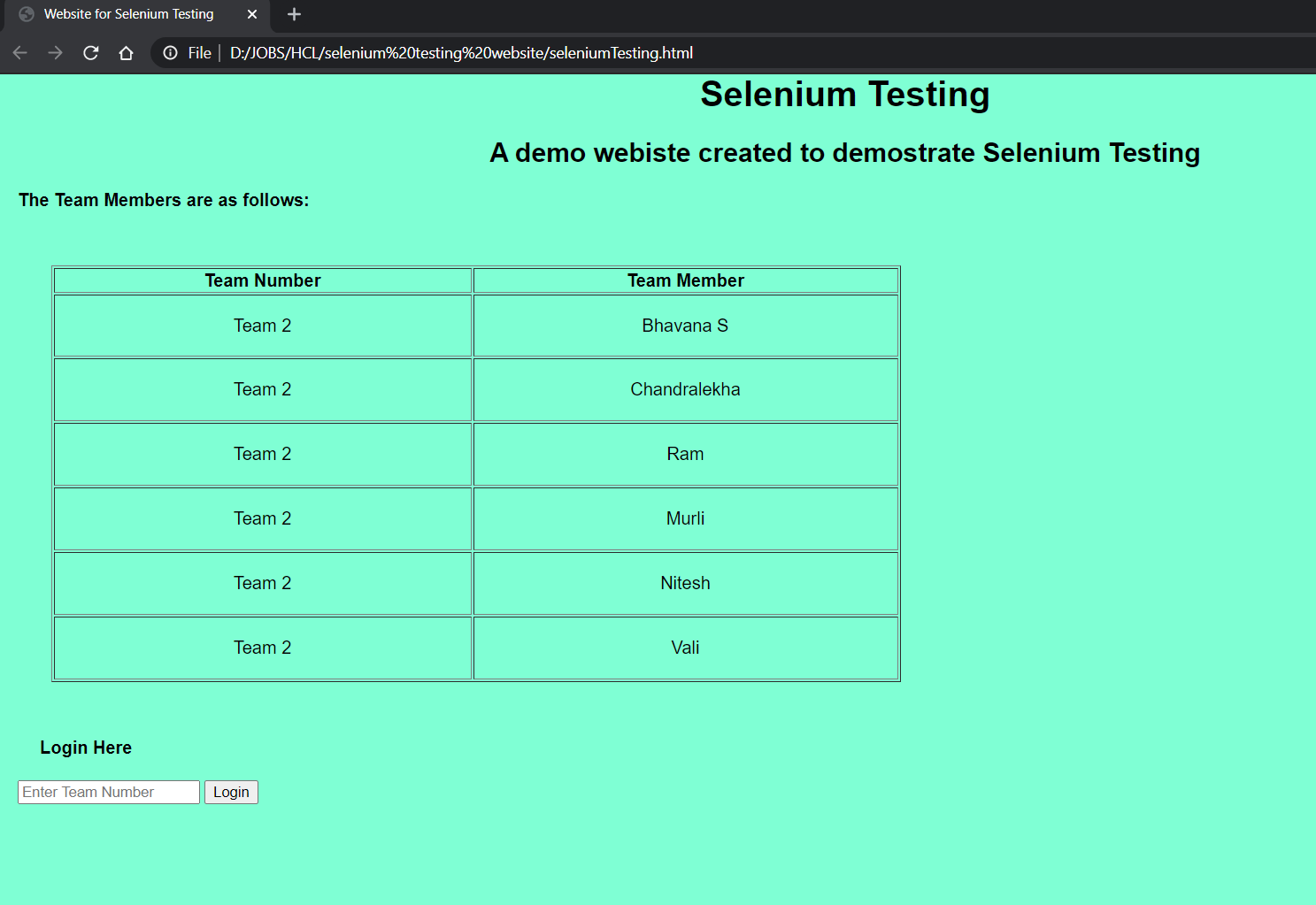
**SYSTEM TESTING AND IMPLEMENTATION**

**AUTOMATION TESTING:**

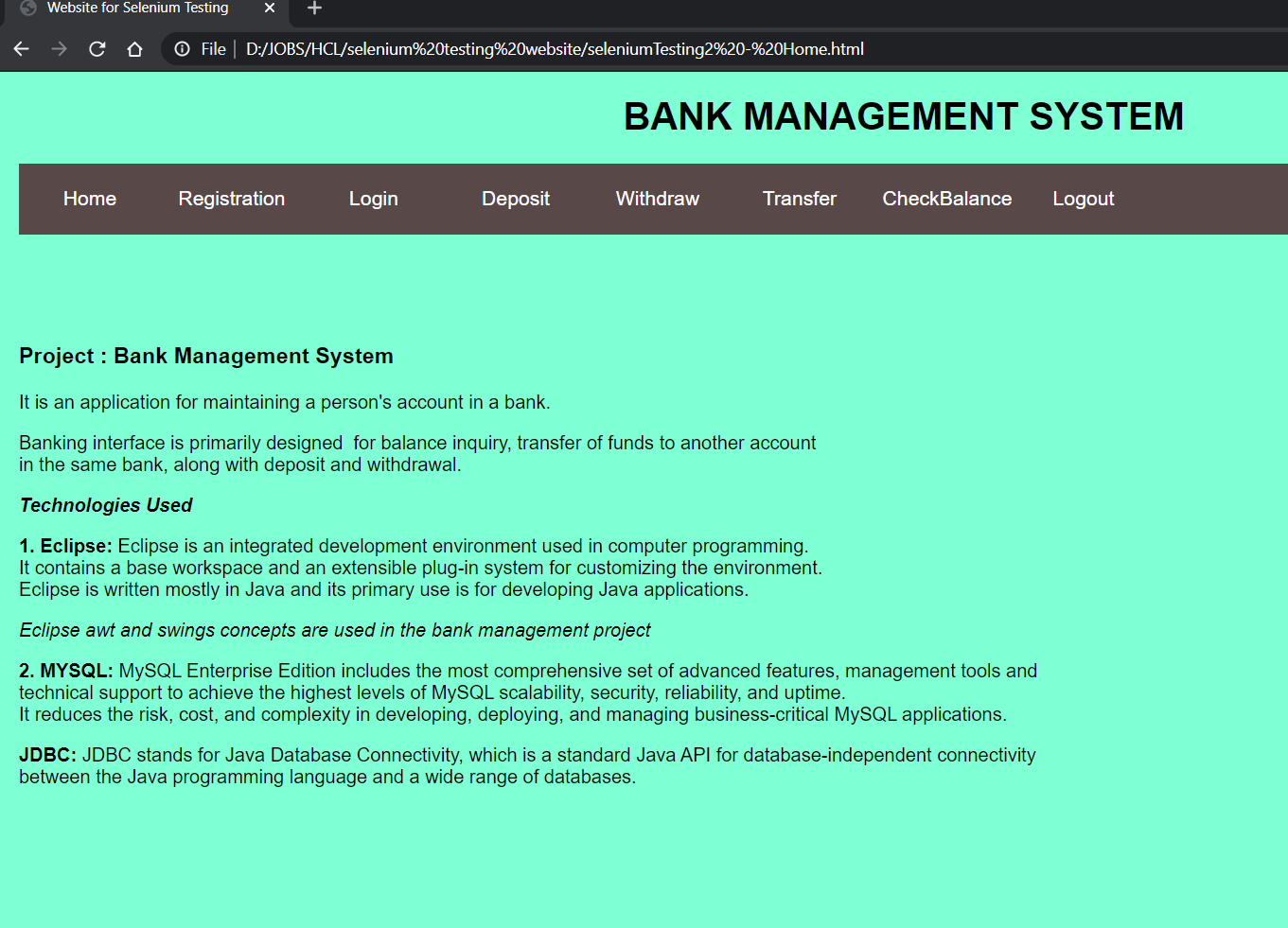
* Automation testing is a type of software testing that involves automated test case execution using an automation tool. So, basically it automates the manual testing process.
* Selenium testing is done on the created Demo website for the project Bank Management.
* The Selenium codes are written in eclipse and executed.



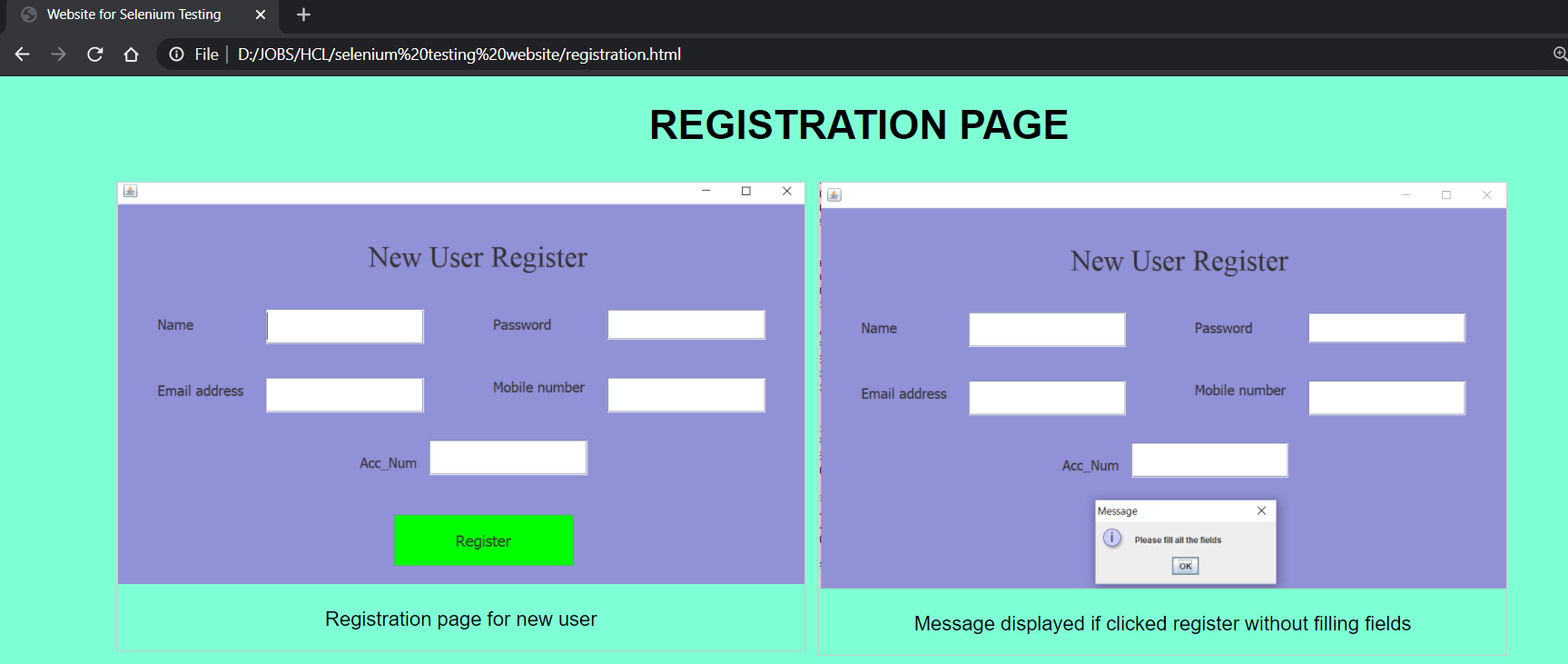
**SELENIUM TESTING:**



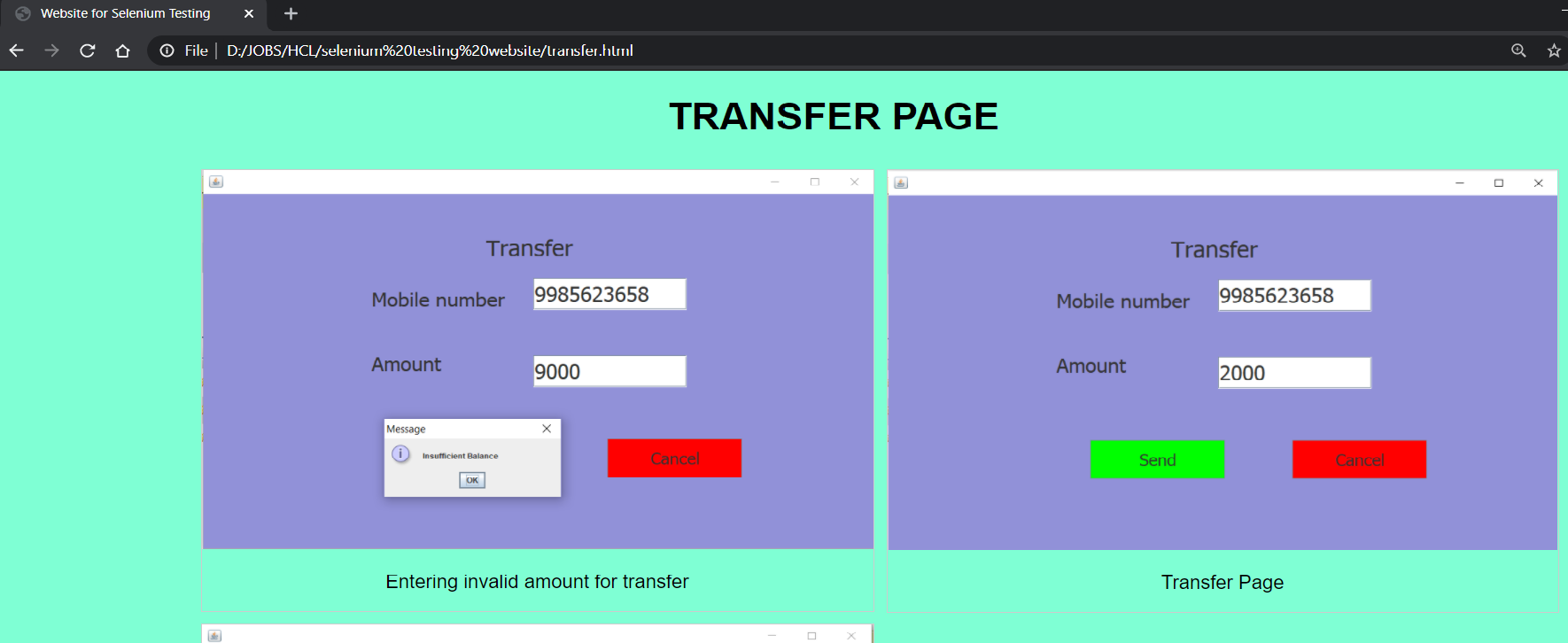
**BANK MANAGEMENT SYSTEM:**



**REGISTRATION PAGE:**



**TRANSFER PAGE:**

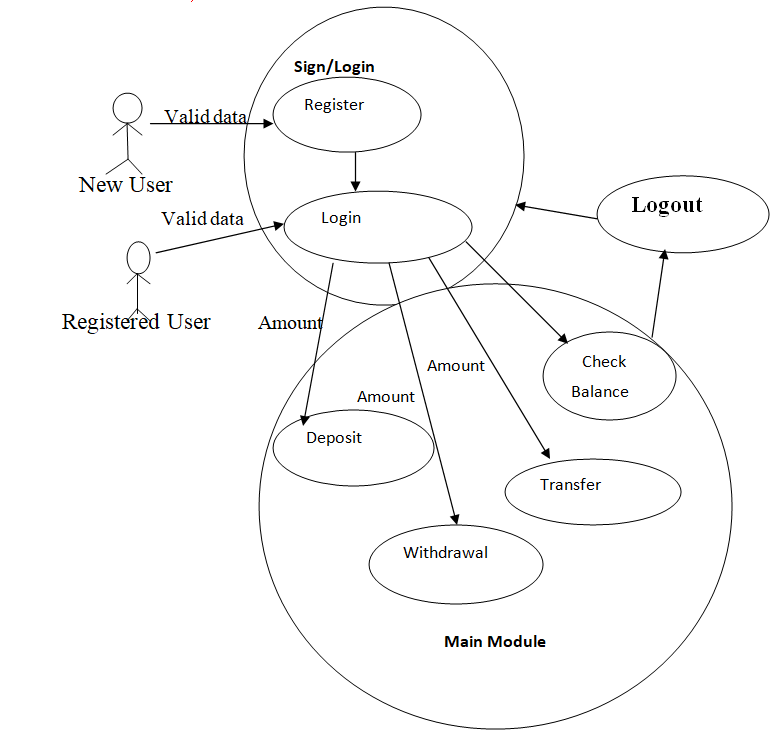


**USE CASE DIAGRAM**

A use case diagram is used to represent the dynamic behaviour of a system. It encapsulates the system's functionality by incorporating use cases, actors, and their relationships. It models the tasks, services, and functions required by a system/subsystem of an application. It depicts the high-level functionality of a system and also tells how the user handles a system.

In Bank management, the new user needs to register, to access the main module functionalities.

The Registered user can login using email and password and can perform Deposit, Withdrawal, Transfer and Check Balance functionalities.



**CONCLUSION & FUTURE SCOPE**

**CONCLUSION:**

Nothing is perfect in the world. So, I am also no exception. I have tried my best to build this project with efficient information. I do not permit the project to be 100% accurate. This project helps the whole customer which have multiple bank account in different banks. Due to this the time customer save own time and they easily login on this site and make transaction easily. The main focus of this project is to save the customer time which have multiple bank account in different banks.

              The maintenance of the records is made efficient, as all the records are stored in the Oracle database, through which data can be retrieved

 easily.

          We finally conclude that using this project we can provide a great interface between the user and the banking environment, thus satisfying the requirements of multiple users. It provides an efficient way for people to involve in on-line transactions. We are providing a monitoring mechanism for admin which is having the ultimate power.

And finally, the users will be satisfied with our service.

**FUTURE SCOPE:**