CTU 2024

Software Development

SUBJECT NAME: Advanced Java Semester 2

SUBJECT CODE: JD522

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23rd April 2024:

Project Question(s)

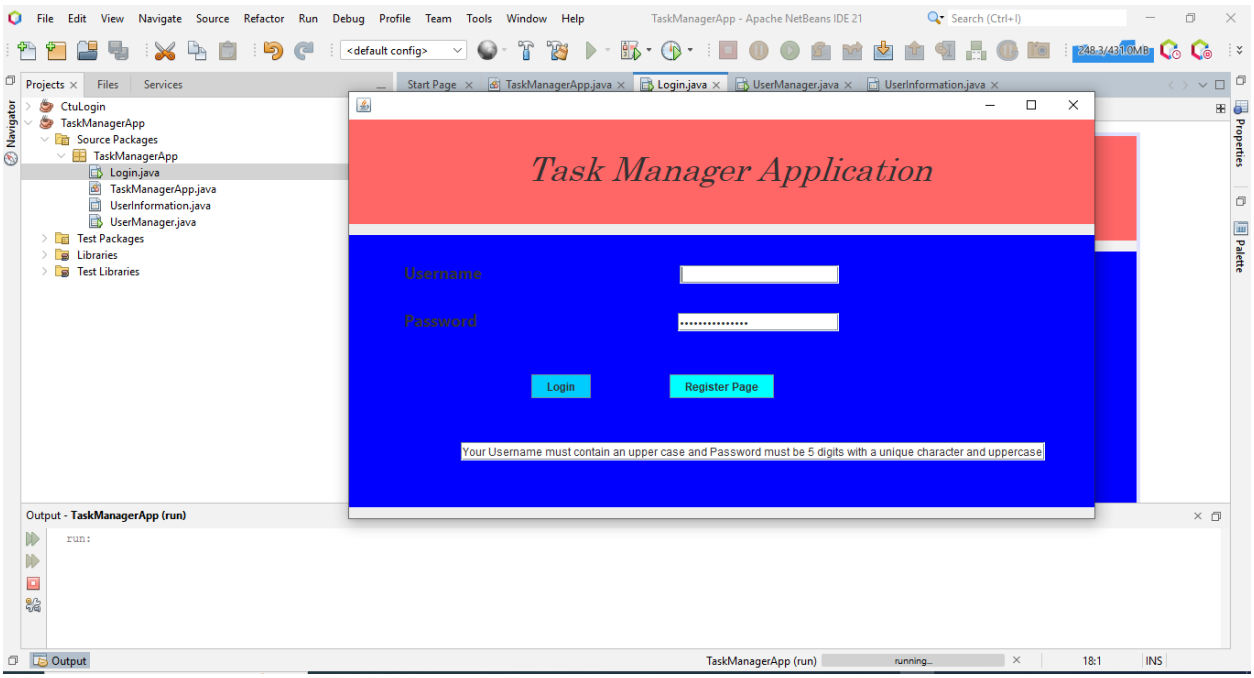
Question 1

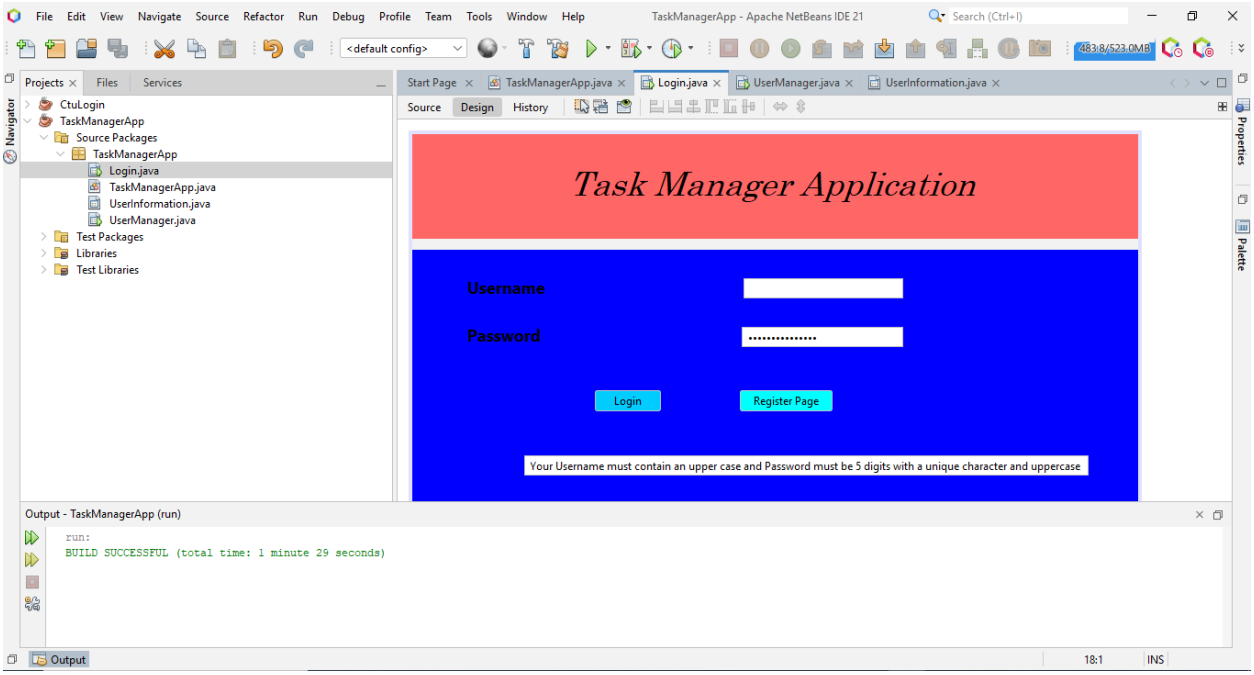
This Formative Assessment 2 covers learning Unit 5 to 8

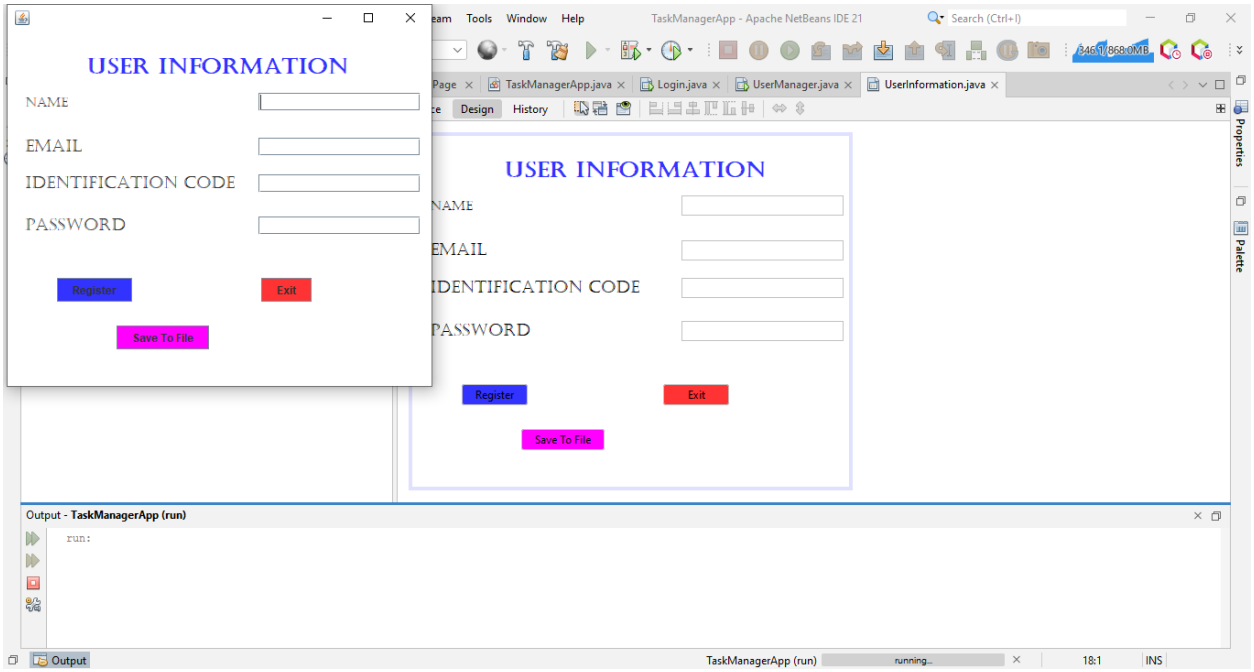
Problem: Task Manager Application

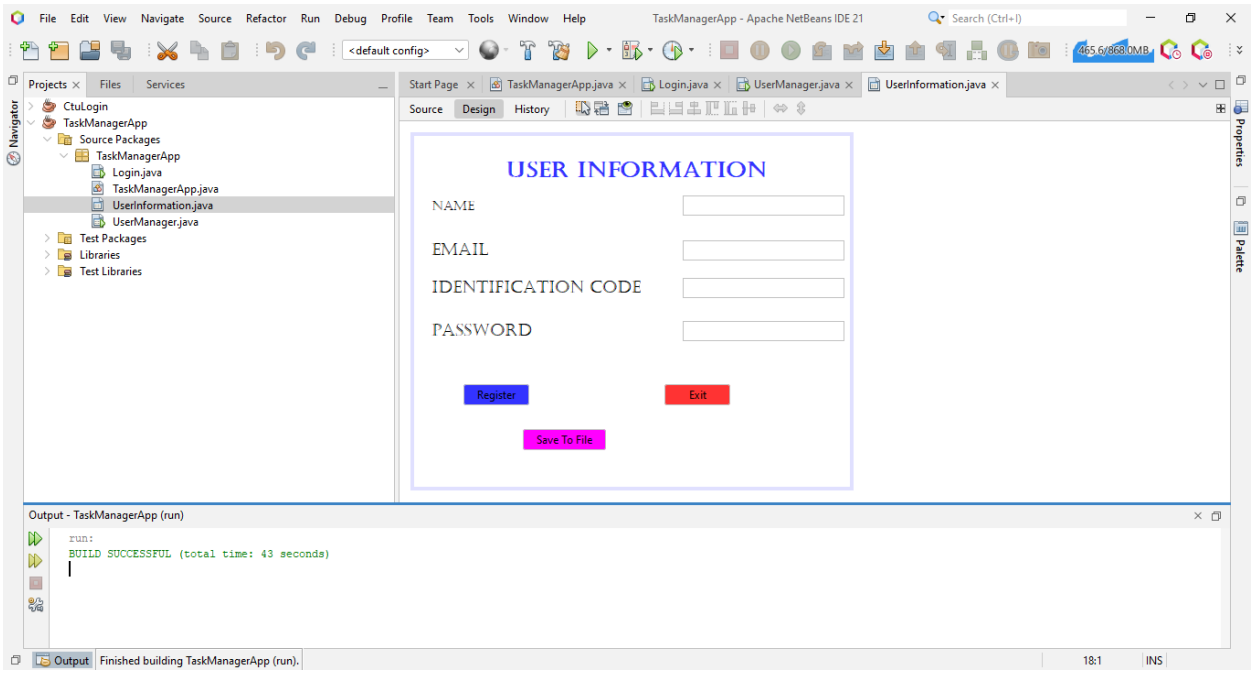
You are tasked with creating a Java GUI-based Task Manager application that allows users to manage their tasks, categorize them, and store the information in a SQLite database. The application should provide features such as adding tasks, marking tasks as completed, and viewing tasks based on categories.

Unit 5: I/O and NIO (25 marks)

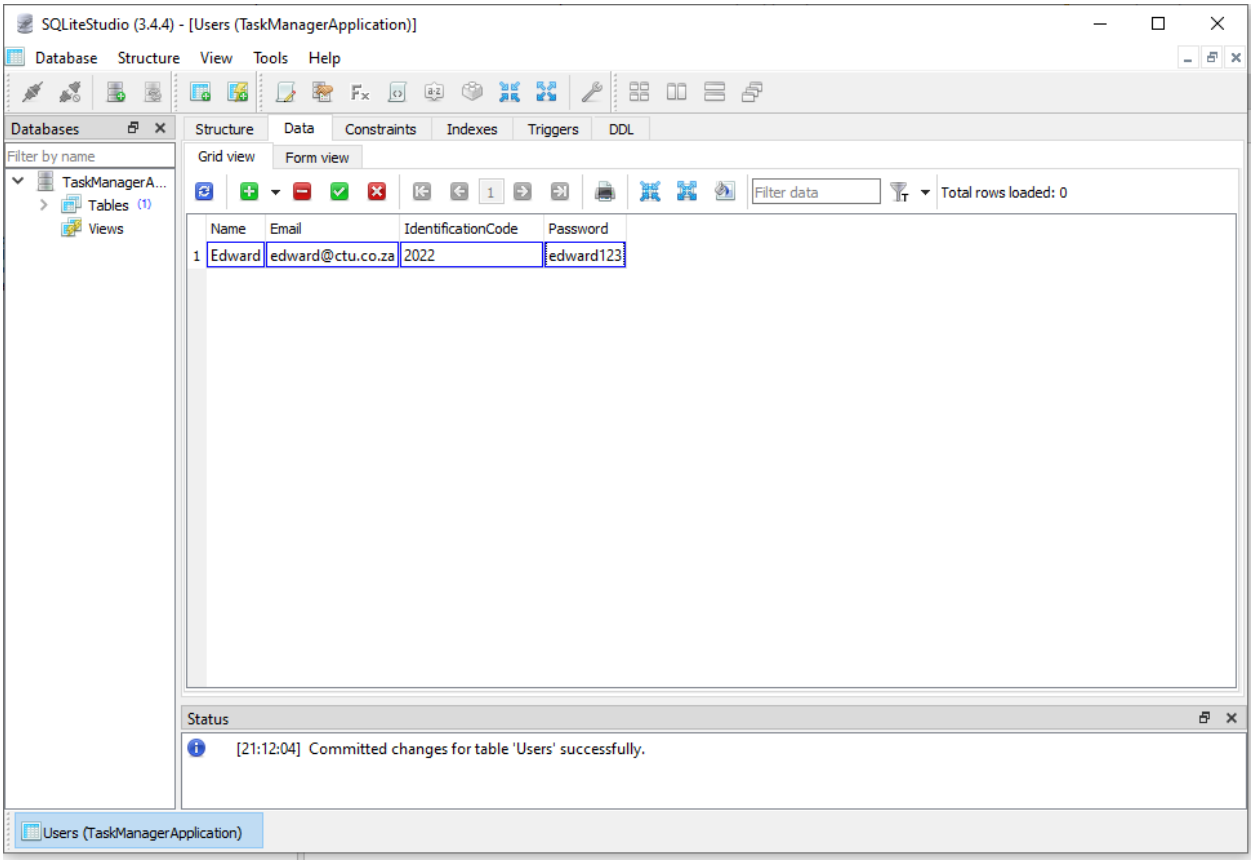


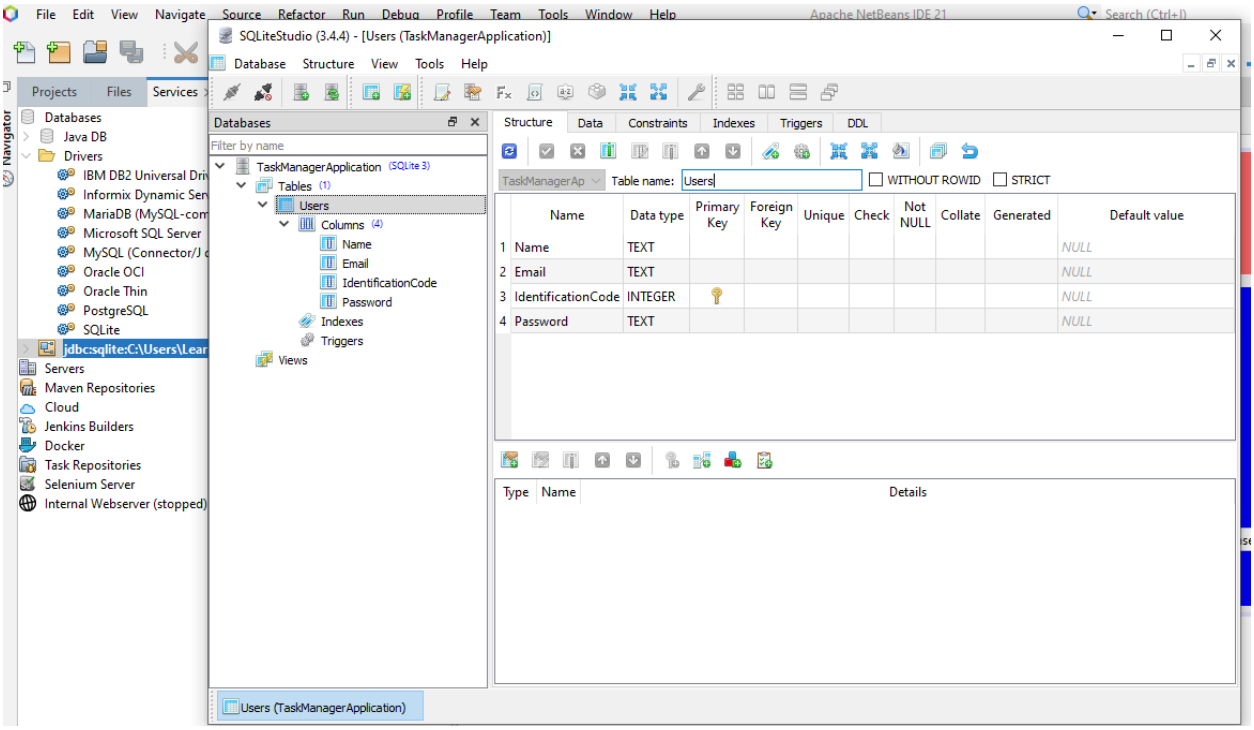

TaskManagerApp - Apache NetBeans IDE 21
Task Manager Application
Username
Password
Login
Register Page
Your Username must contain an upper case and Password must be 5 digits with a unique character and uppercase
Output - TaskManagerApp (run)
run:
BUILD SUCCESSFUL (total time: 1 minute 29 seconds)

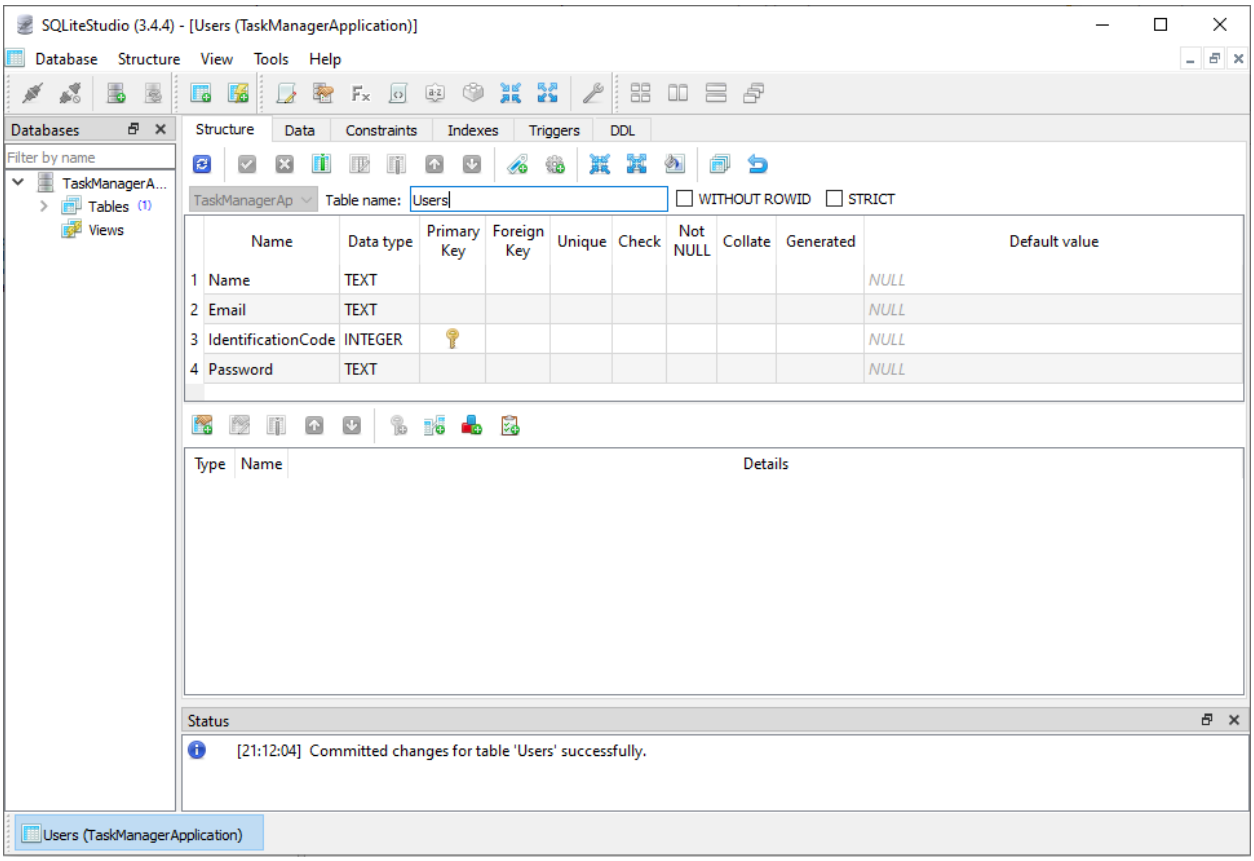

USER INFORMATION
NAME
EMAIL
IDENTIFICATION CODE
PASSWORD
Register
Exit
Save To File
TaskManagerApp - Apache NetBeans IDE 21
Output - TaskManagerApp (run)
run:



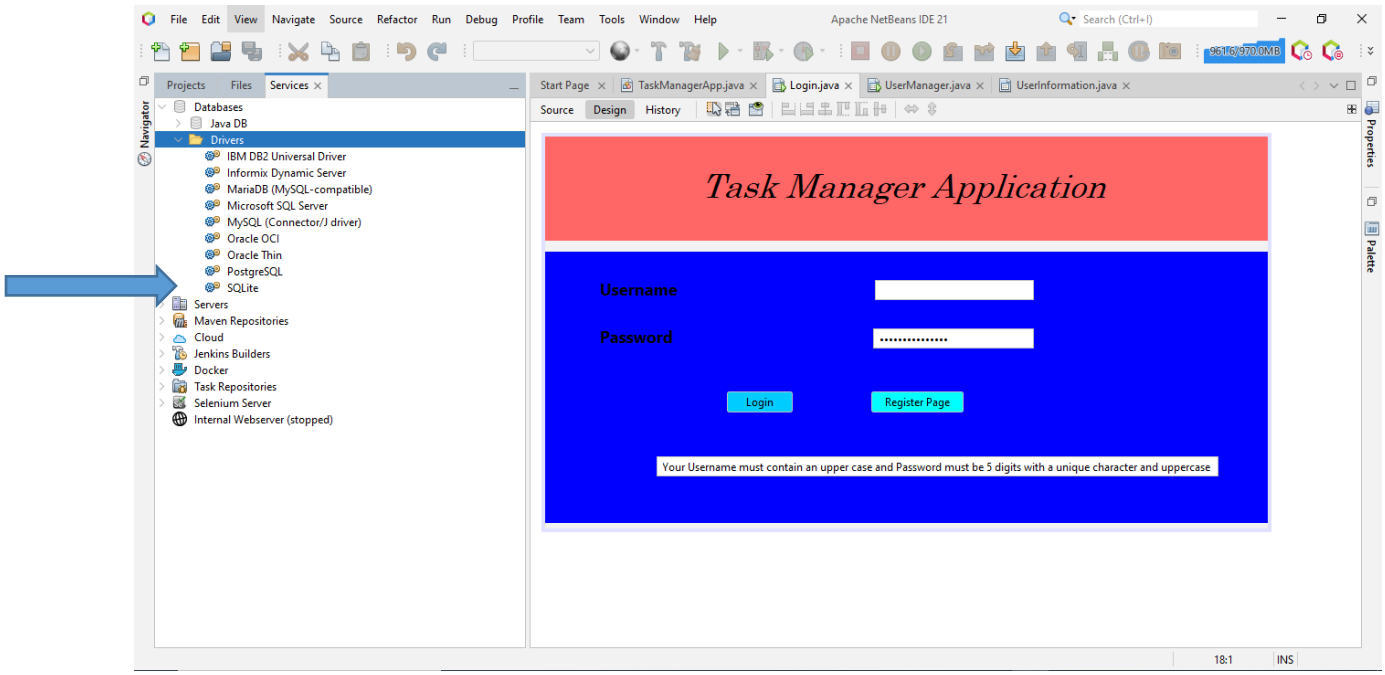
•Implement a GUI to list tasks from the SQLite database. (5 marks)



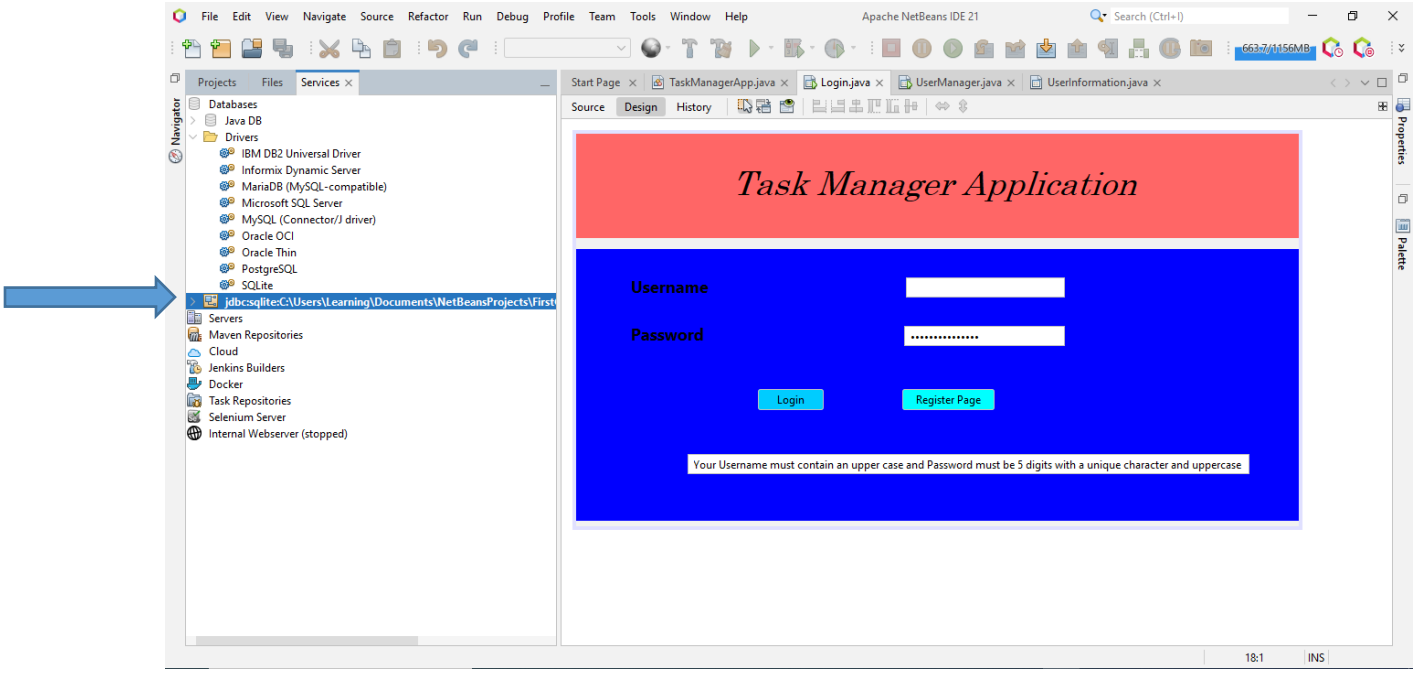




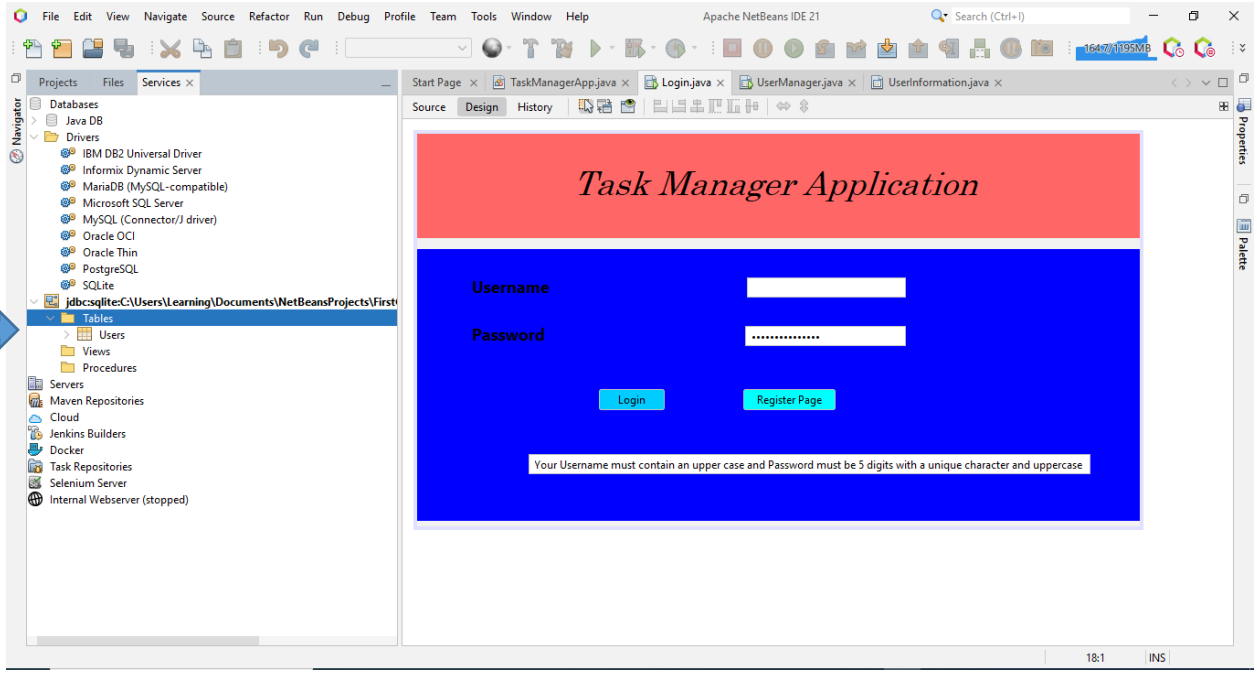
SQL database



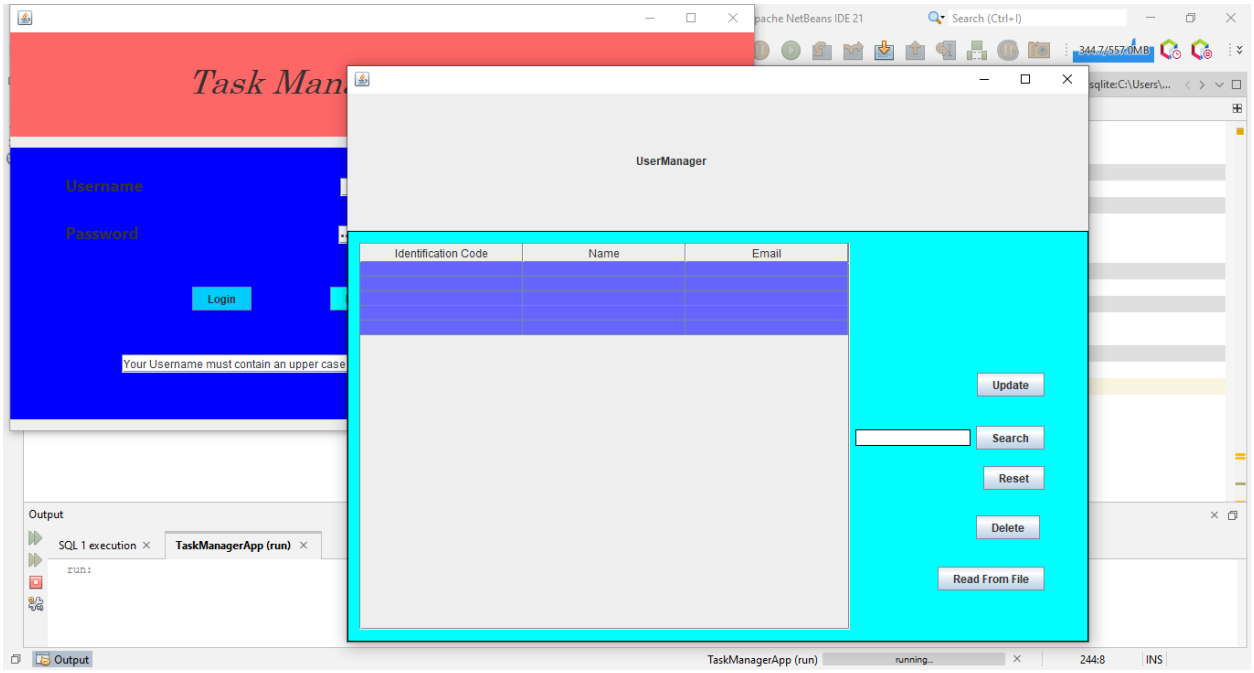
SQL path established

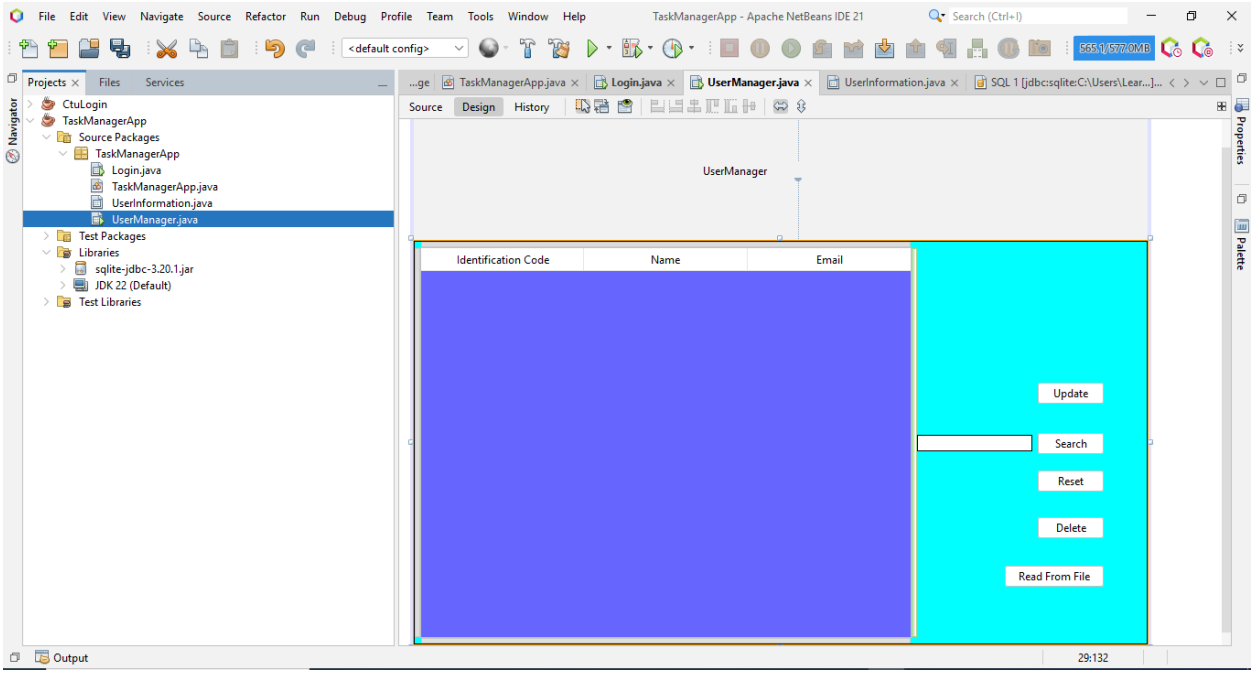


Users



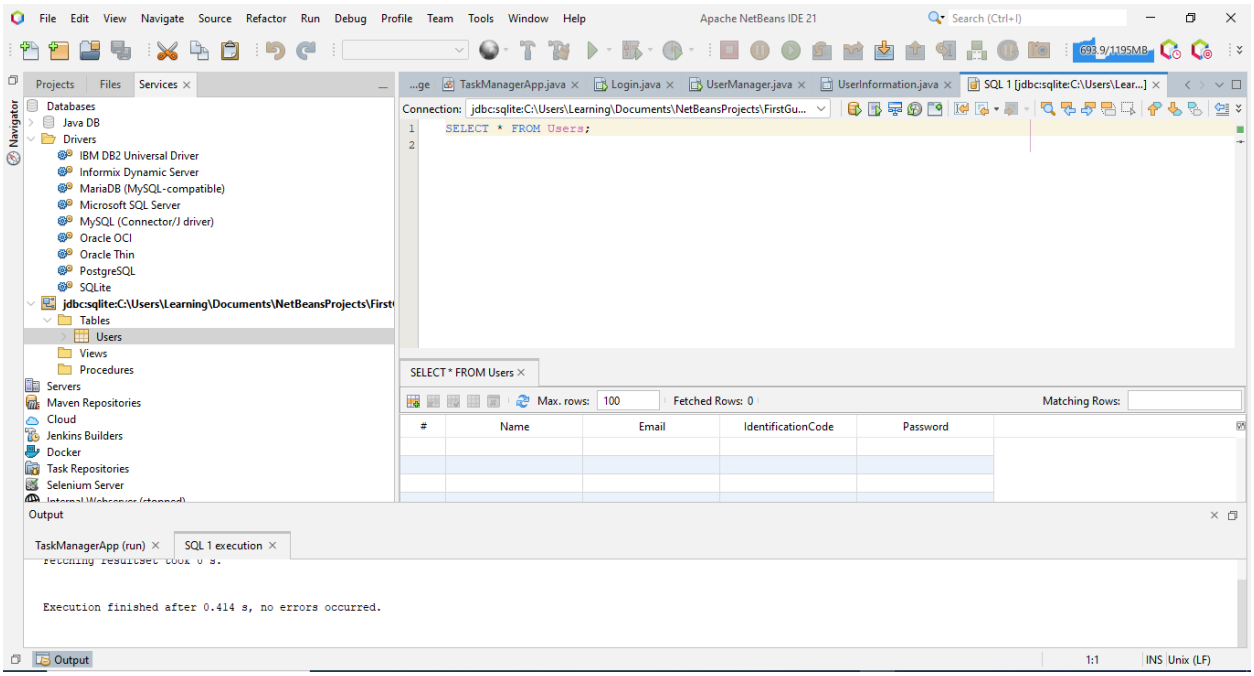
•Allow users to save tasks to a text file using OutputStream. (5 marks)

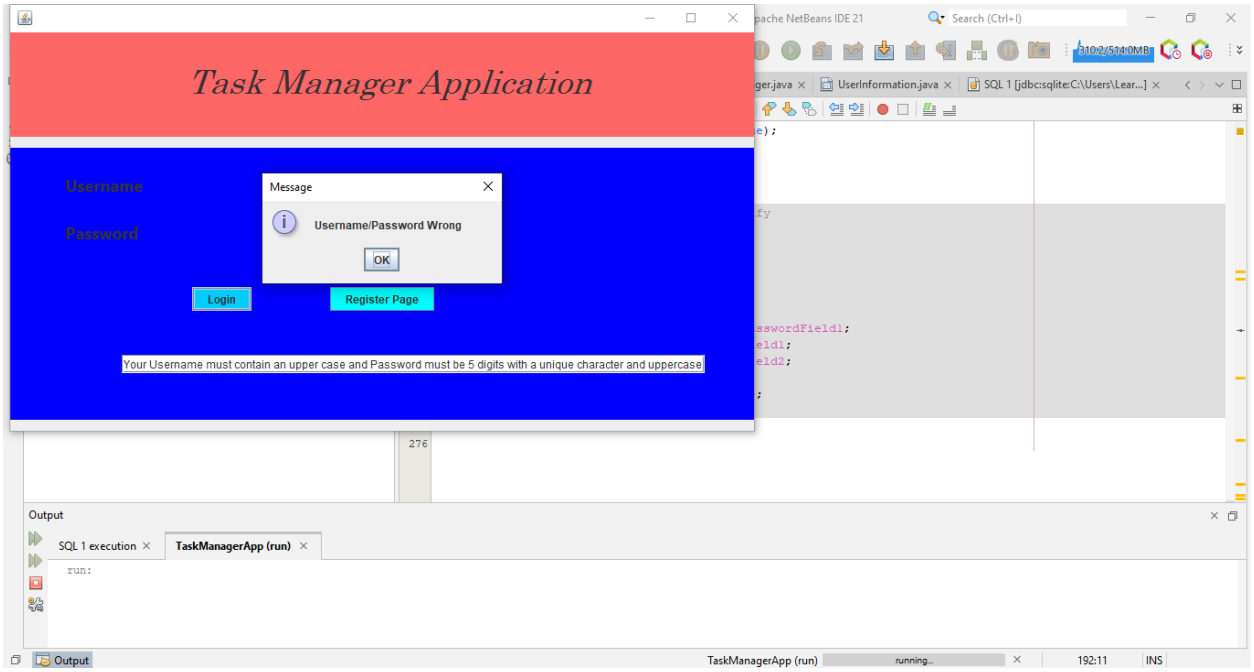


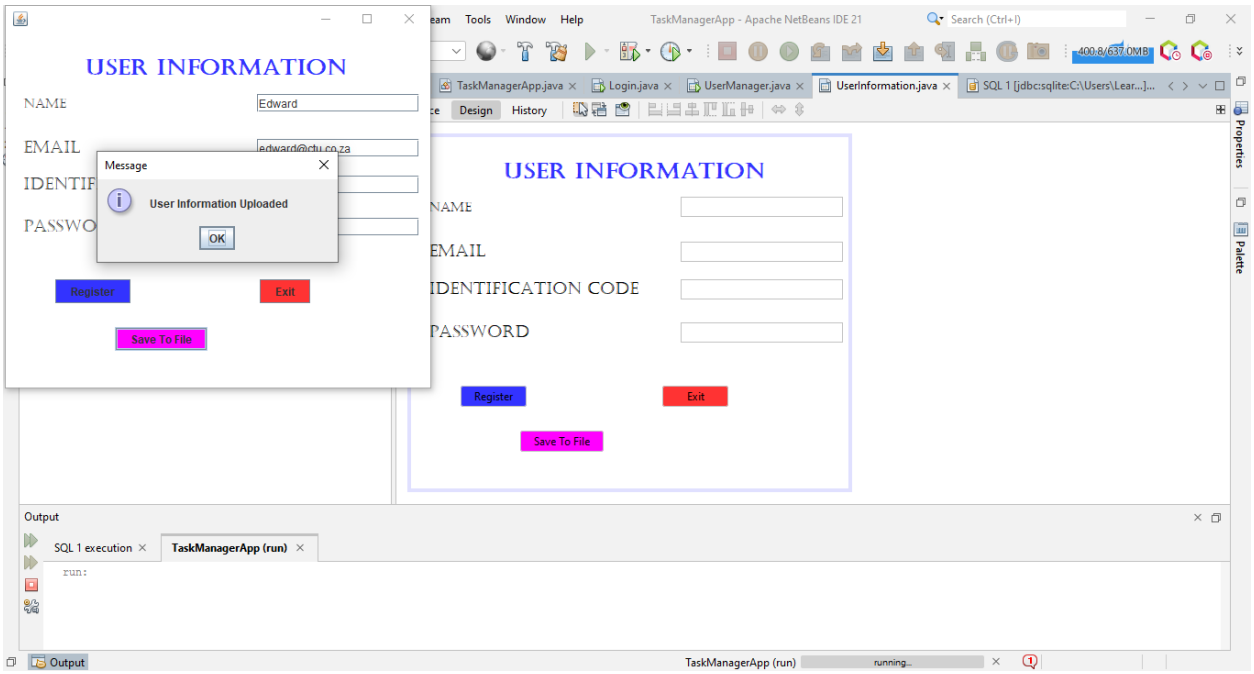


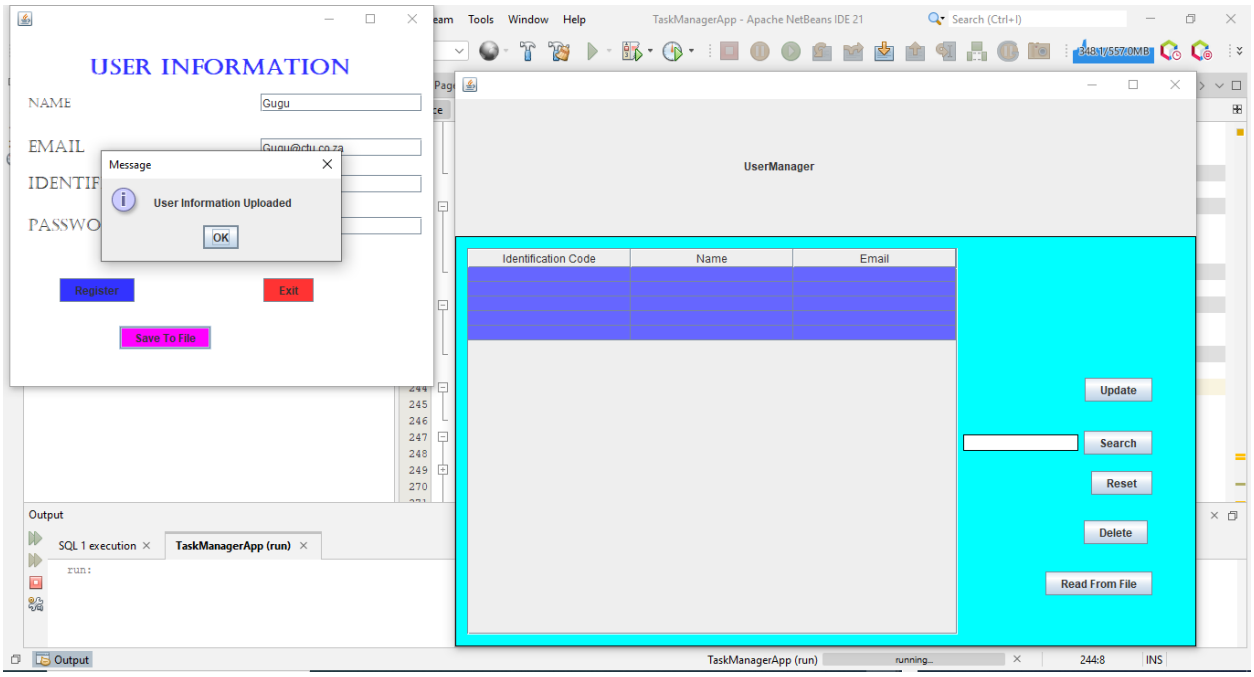
•Implement a mechanism to read tasks from the text file using InputStream.

•Display file properties like size and creation date using NIO.

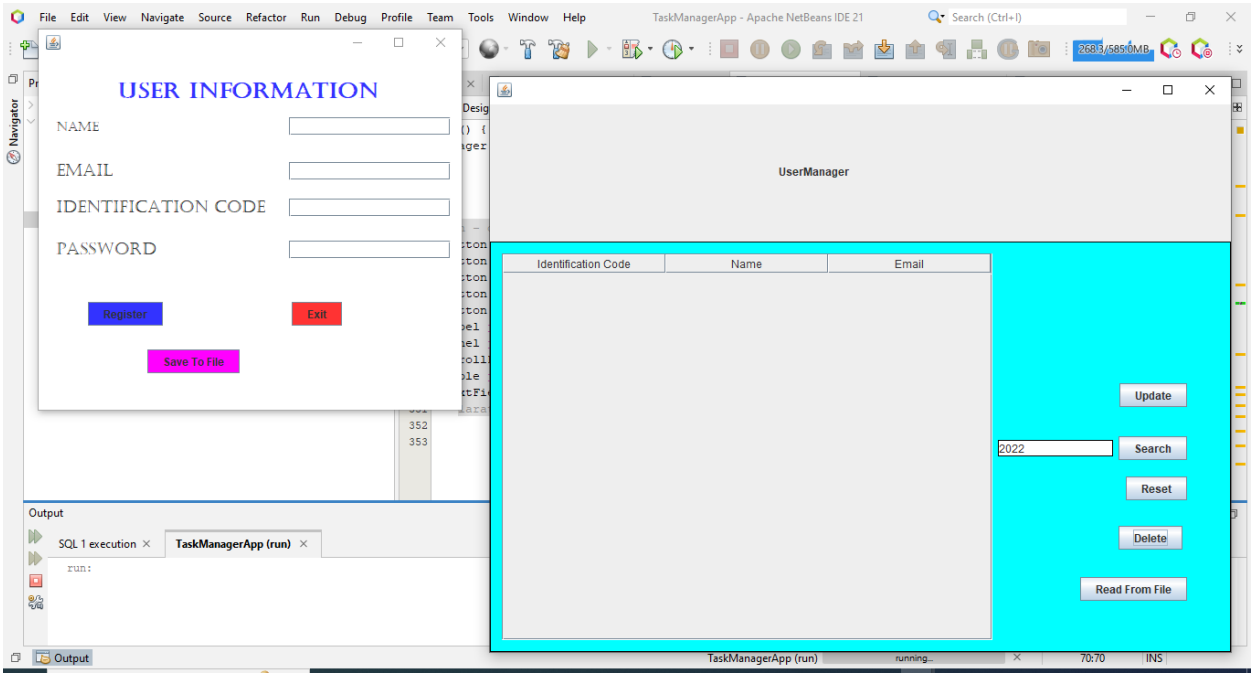


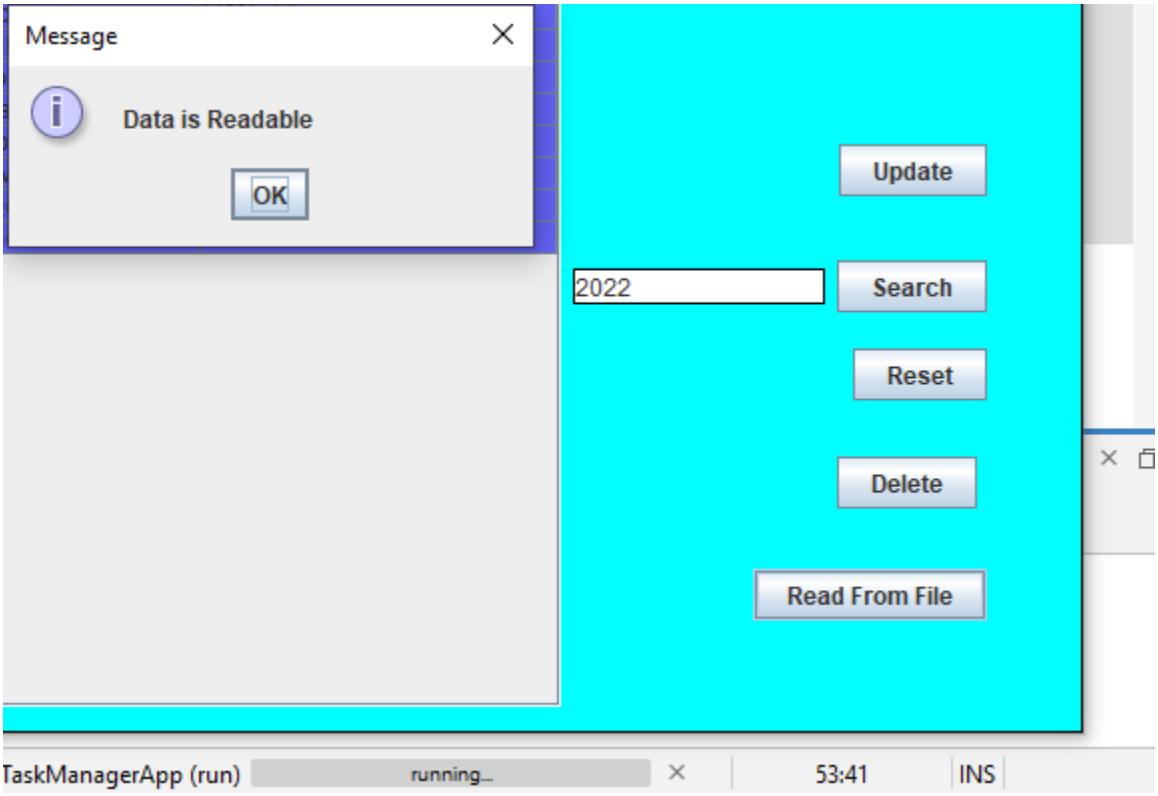

Task Manager Application
Username
Password
Message
Username/Password Wrong
OK
Login
Register Page
Your Username must contain an upper case and Password must be 5 digits with a unique character and uppercase
Output
SQL 1 execution
TaskManagerApp (run)
run:
TaskManagerApp (run)
running...
192:11
INS


USER INFORMATION
NAME
Edward
EMAIL
Message
User Information Uploaded
OK
Register
Exit
Save To File
TaskManagerApp - Apache NetBeans IDE 21
Design
History
USER INFORMATION
NAME
EMAIL
IDENTIFICATION CODE
PASSWORD
Register
Exit
Save To File
Output
SQL 1 execution
TaskManagerApp (run)
run:
TaskManagerApp (run)
running...

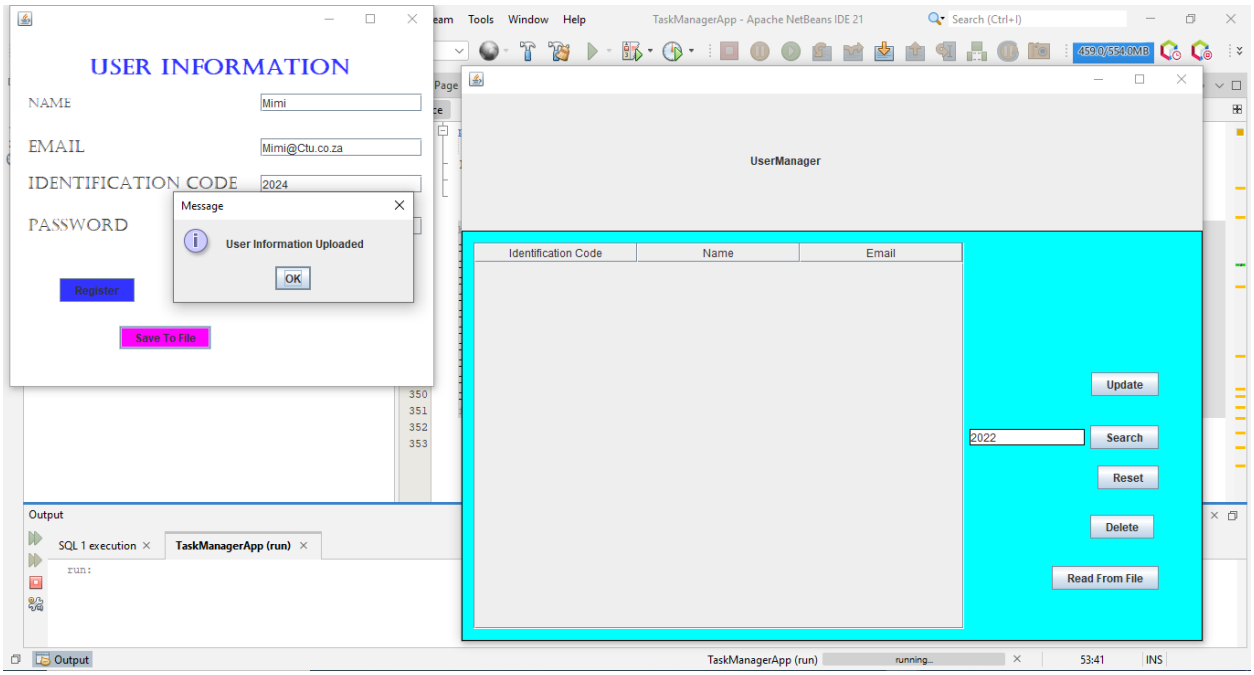


•Provide an option to export task data to a CSV file using NIO. (5 marks)





Unit 6: Generics and Collections (20 marks)



Unit 8: JDBC (20 marks)

•Integrate a SQLite database with the application using JDBC. (5 marks)

•Design a database schema to store task information, including task name, description, completion status,and category. (5 marks)

•Implement functionalities to insert, update, and retrieve task data from the database. (5 marks)

•Display tasks in the GUI retrieved from the database. (5 marks)

Code

```
private void btnLoginActionPerformed(java.awt.event.ActionEvent evt) {
```

```
try{
      Connection conn =
DriverManager.getConnection("jdbc:sqlite:C:\\Users\\Learning\\Documents\\NetBeansProjects\\TaskM
anagerApplication\\TaskManager");


      String username = jTextField1.getText();
      String password = jPasswordField1.getText();



      String query ="SELECT * FROM Users WHERE Name =? AND Password=?";


      PreparedStatement ps = conn.prepareStatement(query);
      ps.setString(1, username);
      ps.setString(2, password);


     ResultSet rs = ps.executeQuery();
      if(rs.next())
      {
         JOptionPane.showMessageDialog(rootPane, "Login Successful");
         UserManager usermanager = new UserManager();
         usermanager.setVisible(true);
         this.dispose();
      }else
      {
      JOptionPane.showMessageDialog(rootPane, "Username/Password Wrong ");
      }
      conn.close();
      }catch(SQLException e)
      {
```

```
        e.printStackTrace();
        }



//      String username,password;
//      username = jTextField1.getText();
//      password = jPasswordField1.getText();
//
//      if(username.equals("admin")&& password.equals("Admin123"))
//      {JOptionPane.showMessageDialog(null, "Login Successful");
//      }else{
//      JOptionPane.showMessageDialog(null,"Login Failed");
//      }

    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        UserInformation ud = new UserInformation();
        ud.setVisible(true);
        this.dispose();
    }

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
        UserManager ud = new UserManager();
        ud.setVisible(true);// TODO add your handling code here:
    }

    /**
```

```
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
        }
        //</editor-fold>
```

```
    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Login().setVisible(true);
        }
    });
}
```