

# DATA VALIDATION DOCUMENTATION

DATA VALIDATION TASK TO VERIFY USER INPUT AND RECTIFY  
MISMATCHES

NTHABISENG MAROPENG SEKWELA

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## FIELDS

Name and Type of Field	Input Component	Reason for Input Component	Data Validation- Name of Rule (e.g. Format, length, presence, check digit, range, type, logic	Reason for Data Validation
Name: String	Text Field	User can enter in their name	Presence Check Type Check	Name can't be empty. The name should be in Alphabetical letters.
Surname: String	Text Field	User can enter in their surname	Presence Check Type Check	Surname can't be empty. The surname should be in Alphabetical letters.
ID: Integer	Text Field	User can enter in their ID	Presence Check Type Check Length Check	The ID should ne filled in. The ID should have 13 numbers.
Contact No: Integer	Text Field	User can enter in their contact	Presence Check Type Check Length Check	The Cell No. number should be filled in it should be integer. Cell No. should be less than 11 digits
Age: Integer	Text Field	User can enter in their age	Presence Check Type Check Length Check	User should enter valid age bellow 100
Email: String	Text Field	User can enter in their email	Presence Check Type Check Format Check	User should put an E-mail in the field. E-mail should be in the correct format.
Genger: Boolean	Radio Button	User can choose their gender	Presence Check	User should select one gender

## BEFORE TESTING

**DATA**

SAVE

CLEAR

HELP

EXIT

NAME:

SURNAME:

ID:

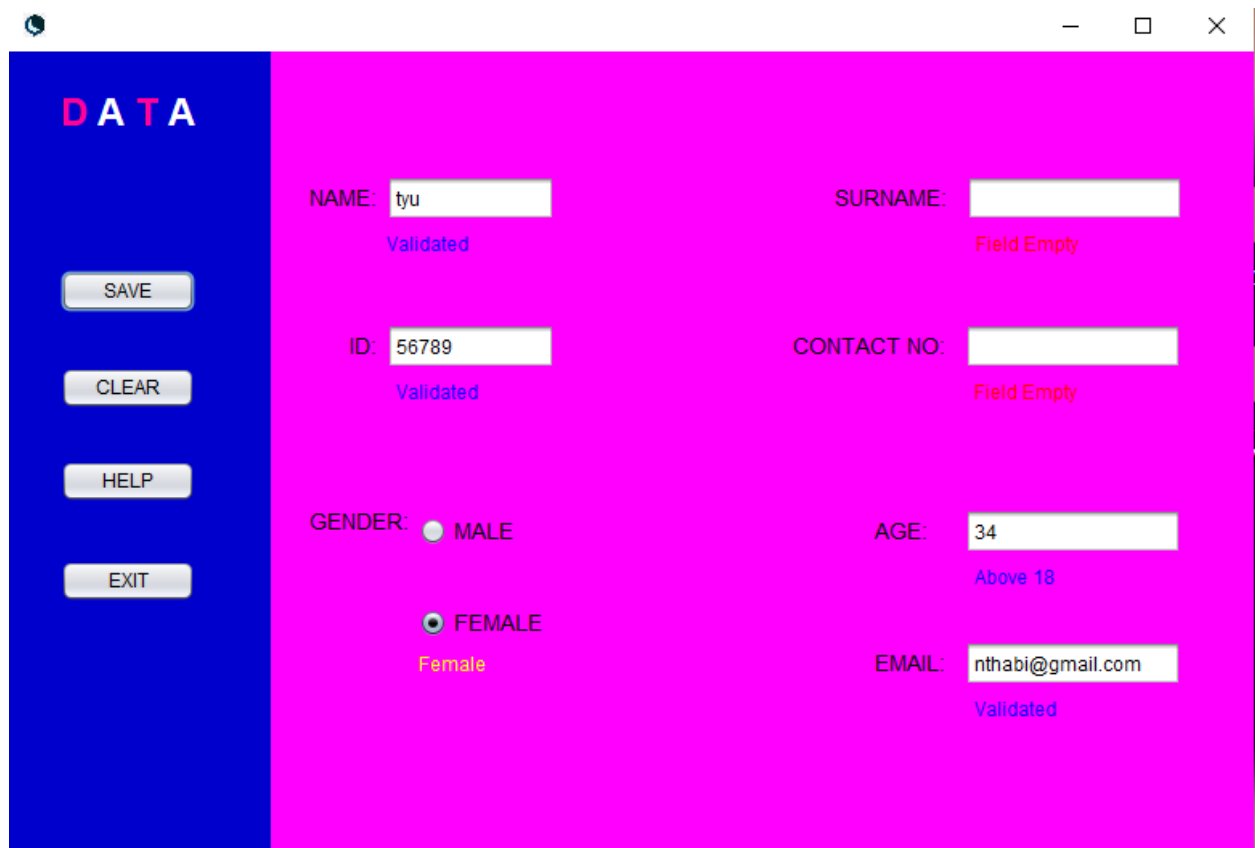
CONTACT NO:

GENDER: ☐ MALE ☐ FEMALE

AGE:

EMAIL:

## AFTER TESTING



**DATA**

SAVE

CLEAR

HELP

EXIT

NAME:  Validated

SURNAME:  Field Empty

ID:  Validated

CONTACT NO:  Field Empty

GENDER: ☐ MALE

☒ FEMALE Female

AGE:  Above 18

EMAIL:  Validated

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IF ALL INPUT IS VALID

**DATA**

SAVE

CLEAR

HELP

EXIT

NAME: Nthabiseng  
Validated

SURNAME: Sekwela  
Validated

ID: 12345789  
Validated

CONTACT NO: 0791177899  
Validated

GENDER: ☐ MALE  
☒ FEMALE  
Female

AGE: 34  
Above 18

EMAIL: nthabi@gmail.com  
Validated

## PRESENCE CHECK

DATA

SAVE

CLEAR

HELP

EXIT

NAME:

Field Empty

SURNAME:

Field Empty

ID:

Field Empty

CONTACT NO:

Field Empty

GENDER: ☒ MALE

☐ FEMALE

Field Empty

AGE:

Field Empty

EMAIL:

Incorrect Email

## TYPE CHECK

DATA

SAVE

CLEAR

HELP

EXIT

NAME:

Letters Only

SURNAME:

Letters Only

ID:

Validated

CONTACT NO:

Validated

GENDER: ☐ MALE

☒ FEMALE

Female

AGE:

Valid

EMAIL:

Incorrect Email



## LENGTH CHECK

DATA

SAVE

CLEAR

HELP

EXIT

NAME: shsh  
Validated

SURNAME: fhgt  
Validated

ID: 23556799999909  
Only 13 charecters

CONTACT NO: 7645445262788299  
Only 10 digits!

GENDER: ☐ MALE  
☒ FEMALE  
Female

AGE: 0  
Between 0 112

EMAIL: hhhgg  
Incorrect Email

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## CODE

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package datavalidationssystemassignment;
import java.awt.Color;
import java.awt.Image;
import java.awt.Toolkit;
import java.awt.event.ActionEvent;
import static java.lang.Double.parseDouble;
import static java.lang.Integer.parseInt;
import javax.swing.ImageIcon;
import javax.swing.JLabel;
import javax.swing.JOptionPane;

/**
 *
 * @author Nthabiseng
 */
public class Data extends javax.swing.JFrame {

    /**
     * Creates new form Data
     */
    public Data() {
        initComponents();
        setIconImage();
    }

    /**
     * This method is called from within the constructor to initialize the form.

```

```
/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
Generated Code

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    JLabel nameErrorLabel= new JLabel();
    nameErrorLabel.setForeground(Color.red);
    nameErrorLabel.setVisible(false);

    txtname.setText("");
    txtsurname.setText("");
    txtid.setText("");
    txtcon.setText("");
    txtage.setText("");
    txtemail.setText("");
    nameResult.setText("");
    surnameResult.setText("");
    idResult.setText("");
    contactResult.setText("");
    ageResult.setText("");
    emailResult.setText("");
    lage.setText("");
}
```

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    String age = txtAge.getText();  
    if (age.contains("18") || age.contains("19") || age.contains("20") || age.contains("21") || age.contains("22")  
        || age.contains("23") || age.contains("24") || age.contains("25") || age.contains("26") || age.contains("27")  
        || age.contains("28") || age.contains("29") || age.contains("30") || age.contains("31") || age.contains("32")  
        || age.contains("33") || age.contains("34") || age.contains("35") || age.contains("36") || age.contains("37")  
        || age.contains("38") || age.contains("39") || age.contains("40") || age.contains("41") || age.contains("42")  
        || age.contains("43") || age.contains("44") || age.contains("45") || age.contains("46") || age.contains("47")  
        || age.contains("48") || age.contains("49") || age.contains("50") || age.contains("51") || age.contains("52")  
        || age.contains("53") || age.contains("54") || age.contains("55") || age.contains("56") || age.contains("57")  
        || age.contains("58") || age.contains("59") || age.contains("60") || age.contains("61") || age.contains("62")  
        || age.contains("63") || age.contains("64") || age.contains("65") || age.contains("66") || age.contains("67")  
        || age.contains("68") || age.contains("69") || age.contains("70") || age.contains("71") || age.contains("72")  
        || age.contains("73") || age.contains("74") || age.contains("75") || age.contains("76") || age.contains("77")  
        || age.contains("78") || age.contains("79") || age.contains("80") || age.contains("81") || age.contains("82")  
        || age.contains("83") || age.contains("84") || age.contains("85") || age.contains("86") || age.contains("87")  
        || age.contains("88") || age.contains("89") || age.contains("90") || age.contains("91") || age.contains("92")  
        || age.contains("93") || age.contains("94") || age.contains("95") || age.contains("96") || age.contains("97")  
        || age.contains("98") || age.contains("99") || age.contains("100") || age.contains("101") || age.contains("102")  
        || age.contains("103") || age.contains("104") || age.contains("105") || age.contains("106") || age.contains("107")  
        || age.contains("108") || age.contains("109") || age.contains("110") || age.contains("111") || age.contains("112")  
    ) {  
        lAge.setText("Above 18");  
        lAge.setForeground(Color.BLUE);  
    }  
    else {  
        if (age.contains("17") || age.contains("16") || age.contains("15") || age.contains("14")  
            || age.contains("13") || age.contains("12") || age.contains("11") || age.contains("10") || age.contains("9")  
            || age.contains("8") || age.contains("7") || age.contains("6") || age.contains("5") || age.contains("4")  
            || age.contains("3") || age.contains("2") || age.contains("1")) {  
            lAge.setText("Below 18");  
        }  
    }  
}
```

```
        ||age.contains("3")||age.contains("2")||age.contains("1")){
            lage.setText("Below 18");
            lage.setForeground(Color.red);
        }
        else{
            lage.setText("Between 0 112");
            lage.setForeground(Color.RED);
        }
    }

    String email =txtemail.getText();
    String name = txtname.getText();
    String surname = txtsurname.getText();
    String ID = txtid.getText();
    String contact = txtcon.getText();

    if(name.isBlank()){
        nameResult.setText("Field Empty");
        nameResult.setForeground(Color.red);
    }
    else{
        nameResult.setText("Validated");
        nameResult.setForeground(Color.BLUE);
    }

    if(surname.isBlank()){
        surnameResult.setText("Field Empty");
        surnameResult.setForeground(Color.red);
    }
    else{
        surnameResult.setText("Validated");
    }
}
```

```
    }  
    else{  
        surnameResult.setText("Validated");  
        surnameResult.setForeground(Color.BLUE);  
    }  
  
    if(ID.isBlank()){  
        idResult.setText("Field Empty");  
        idResult.setForeground(Color.red);  
    }  
    else{  
        idResult.setText("Validated");  
        idResult.setForeground(Color.BLUE);  
    }  
  
    if(contact.isBlank()){  
        contactResult.setText("Field Empty");  
        contactResult.setForeground(Color.red);  
    }  
    else{  
        contactResult.setText("Validated");  
        contactResult.setForeground(Color.BLUE);  
    }  
    if(contact.length()>10){  
        contactResult.setText("Only 10 digits!");  
        contactResult.setForeground(Color.red);  
    }  
    if(ID.length()>13){  
        idResult.setText("Only 13 charecters");  
        idResult.setForeground(Color.red);  
    }  
    if(age.isBlank()){  
        ageResult.setText("Field Empty");|
```

```
if (age.isBlank()) {  
    ageResult.setText("Field Empty");  
    ageResult.setForeground(Color.red);  
    lage.setText("");  
}  
  
else {  
    ageResult.setText("");  
}  
  
if (!txtmale.isSelected() && !txtfemale.isSelected()) {  
    result.setText("Field Empty");  
    result.setForeground(Color.red);  
}  
  
else if (txtmale.isSelected()) {  
    result.setText("Male");  
    result.setForeground(Color.yellow);  
}  
  
else if (txtfemale.isSelected()) {  
    result.setText("Female");  
    result.setForeground(Color.YELLOW);  
}  
  
if (email.isEmpty()) {  
    emailResult.setText("Field Empty");  
    emailResult.setForeground(Color.RED);  
}  
else {  
    emailResult.setText("");  
}
```

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```
,
    else{
        emailResult.setText("");
    }
    if(!email.contains("@")||!email.contains(".com")){
        emailResult.setText("Incorrect Email");
        emailResult.setForeground(Color.red);
    }
    else{
        emailResult.setText("Validated");
        emailResult.setForeground(Color.BLUE);
    }
}

}

private void txtnameActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void txtidKeyTyped(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    if (!Character.isDigit(evt.getKeyChar())){
        evt.consume();
    }
}

private void txtnameKeyTyped(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    if (!(Character.isAlphabetic(evt.getKeyChar()) || Character.isWhitespace(evt.getKeyChar()))){
        evt.consume();
    }
}
```



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```
private void txtconKeyTyped(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    if (!Character.isDigit(evt.getKeyChar())) {
        evt.consume();
    }
}

private void txtageKeyTyped(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    if (!Character.isDigit(evt.getKeyChar())) {
        evt.consume();
    }
}

private void exitButtonActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:

    exitButton.setBackground(new java.awt.Color(255, 255, 255));
    exitButton.setForeground(new java.awt.Color(0, 0, 0));
    exitButton.setText("EXIT");
    exitButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            exitButtonActionPerformed(evt);
        }
    });
    System.exit(0);
}

private void helpButtonActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    helpButton.setBackground(new java.awt.Color(255, 255, 255));
}
```

```
helpButton.setBackground(new java.awt.Color(255, 255, 255));
helpButton.setForeground(new java.awt.Color(0, 0, 0));
helpButton.setText("HELP");
helpButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        helpButtonActionPerformed(evt);
    }
});
new helpp().setVisible(true);
dispose();
}

private void txtnameKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    char c = evt.getKeyChar();
    if(Character.isLetter(c)||Character.isWhitespace(c)||Character.isISOControl(c)){
        txtname.setEditable(true);
        nameResult.setForeground(Color.BLUE);
        nameResult.setText("Valid");
    }
    else{
        txtname.setEditable(false);
        nameResult.setText("Letters Only");
        nameResult.setForeground(Color.red);
    }
}

private void txtsurnameKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    char c = evt.getKeyChar();
    if(Character.isLetter(c)||Character.isWhitespace(c)||Character.isISOControl(c)){
        txtsurname.setEditable(true);
    }
}
```

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```
        txtsurname.setEditable(true);
        surnameResult.setForeground(Color.BLUE);
        surnameResult.setText("Valid");
    }
    else{
        txtsurname.setEditable(false);
        surnameResult.setText("Letters Only");
        surnameResult.setForeground(Color.red);
    }
}

private void txtmaleKeyTyped(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
}

private void txtmaleActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    if(txtmale.isSelected()){
        result.setText("Male");
        result.setForeground(Color.yellow);
    }
    else if(!txtmale.isSelected() && txtfemale.isSelected()){
        result.setText("");
    }
}

private void txtfemaleActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    if(txtfemale.isSelected()){
        result.setText("Female");
        result.setForeground(Color.yellow);
    }
}
```

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```
        else if(!txtfemale.isSelected() && txtmale.isSelected()) {
            result.setText("");
        }
    }

    private void txtageKeyPressed(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        char c = evt.getKeyChar();
        if(Character.isLetter(c)) {
            txtage.setEditable(false);
            ageResult.setText("Numbers Only");
            ageResult.setForeground(Color.red);
        }
        else {
            ageResult.setForeground(Color.BLUE);
            ageResult.setText("Valid");
            txtage.setEditable(true);
        }
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        Look and feel setting code (optional)

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

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```
        public void run() {  
            new Data().setVisible(true);  
        }  
    });  
}  
  
// Variables declaration - do not modify  
private javax.swing.JLabel ageResult;  
private javax.swing.JLabel contactResult;  
private javax.swing.JLabel contactResult1;  
private javax.swing.JLabel emailResult;  
private javax.swing.JButton exitButton;  
private javax.swing.JLabel femaleResult;  
private javax.swing.JButton helpButton;  
private javax.swing.JLabel idResult;  
private javax.swing.JLabel idResult1;  
private javax.swing.JButton jButton1;  
private javax.swing.JButton jButton2;  
private javax.swing.JLabel jLabel1;  
private javax.swing.JLabel jLabel10;  
private javax.swing.JLabel jLabel11;  
private javax.swing.JLabel jLabel2;  
private javax.swing.JLabel jLabel3;  
private javax.swing.JLabel jLabel4;  
private javax.swing.JLabel jLabel5;  
private javax.swing.JLabel jLabel6;  
private javax.swing.JLabel jLabel7;  
private javax.swing.JLabel jLabel8;  
private javax.swing.JLabel jLabel9;  
private javax.swing.JPanel jPanel1;  
private javax.swing.JPanel jPanel2;  
private javax.swing.JLabel lage;  
private javax.swing.JLabel maleResult;
```

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```
private javax.swing.JLabel jLabel1;  
private javax.swing.JLabel jLabel10;  
private javax.swing.JLabel jLabel11;  
private javax.swing.JLabel jLabel12;  
private javax.swing.JLabel jLabel13;  
private javax.swing.JLabel jLabel14;  
private javax.swing.JLabel jLabel15;  
private javax.swing.JLabel jLabel16;  
private javax.swing.JLabel jLabel17;  
private javax.swing.JLabel jLabel18;  
private javax.swing.JLabel jLabel19;  
private javax.swing.JPanel jPanel1;  
private javax.swing.JPanel jPanel2;  
private javax.swing.JLabel lage;  
private javax.swing.JLabel maleResult;  
private javax.swing.JLabel nameResult;  
private javax.swing.JLabel result;  
private javax.swing.JLabel surnameResult;  
private javax.swing.JTextField txtage;  
private javax.swing.JTextField txtcon;  
private javax.swing.JTextField txtemail;  
private javax.swing.JRadioButton txtfemale;  
private javax.swing.JTextField txtid;  
private javax.swing.JRadioButton txtmale;  
private javax.swing.JTextField txtname;  
private javax.swing.JTextField txtsurname;  
// End of variables declaration  
  
private void setIconImage() {  
    setIconImage(Toolkit.getDefaultToolkit().getImage(getClass().getResource("OIP.jpg")));  
}  
}
```

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```
/*  
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license  
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template  
 */  
package datavalidationsystemassignment;  
  
import java.awt.Color;  
import java.awt.Toolkit;  
import javax.swing.ImageIcon;  
  
/**  
 *  
 * @author Nthabiseng  
 */  
public class helpp extends javax.swing.JFrame {  
  
    /**  
     * Creates new form helpp  
     */  
    public helpp() {  
        initComponents();  
        setIconImage();  
    }  
  
    /**  
     * This method is called from within the constructor to initialize the form.  
     * WARNING: Do NOT modify this code. The content of this method is always  
     * regenerated by the Form Editor.  
     */  
    @SuppressWarnings("unchecked")  
    Generated Code
```

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```
@SuppressWarnings("unchecked")
Generated Code

private void backActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    new How().setVisible(true);
    dispose();
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    Look and feel setting code (optional)

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

// Variables declaration - do not modify
private javax.swing.JButton back;
private javax.swing.JLabel jLabel1;
private javax.swing.JPanel jPanel1;
// End of variables declaration

private void setIconImage() {
    setIconImage(Toolkit.getDefaultToolkit().getImage(getClass().getResource("OIP.jpg")));
}
```



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

// Variables declaration - do not modify
private javax.swing.JButton back;
private javax.swing.JLabel jLabel1;
private javax.swing.JPanel jPanel1;
// End of variables declaration

private void setIconImage() {
    setIconImage(Toolkit.getDefaultToolkit().getImage(getClass().getResource("OIP.jpg")));
}
}
```

```
* Click nbfs:///nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
* Click nbfs:///nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
*/
package datavalidationsystemassignment;

import java.awt.Toolkit;

/**
 *
 * @author Nthabiseng
 */
public class How extends javax.swing.JFrame {

    /**
     * Creates new form How
     */
    public How() {
        initComponents();
        setIconImage();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    Generated Code

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new helpn().setVisible(true);
    }
}
```

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new helpp().setVisible(true);  
    dispose();  
}  
  
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new Data().setVisible(true);  
    dispose();  
}  
  
/**  
 * @param args the command line arguments  
 */  
public static void main(String args[]) {  
    /* Set the Nimbus look and feel */  
    Look and feel setting code (optional)  
  
    /* Create and display the form */  
    java.awt.EventQueue.invokeLater(new Runnable() {  
        public void run() {  
            new How().setVisible(true);  
        }  
    });  
}  
  
// Variables declaration - do not modify  
private javax.swing.JButton jButton1;  
private javax.swing.JButton jButton2;  
private javax.swing.JLabel jLabel1;  
private javax.swing.JPanel jPanel1;
```

```
// Variables declaration - do not modify
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JLabel jLabel1;
private javax.swing.JPanel jPanel1;
// End of variables declaration

private void setIconImage() {
    setIconImage(Toolkit.getDefaultToolkit().getImage(getClass().getResource("OIP.jpg")));
}
}
```