

```
public class Person
{
    private int age;
    private double height;
    private double weight;
    private String gender; // M,m <=> masculin ; F,f <=> féminin

    public Person(int pAge, double pHeight, double pWeight, String pGender)
    {
        age = pAge;
        height = pHeight;
        weight = pWeight;
        gender = pGender;
    }

    public double getNormalWeight()
    {
        // return 50 + (height-150) / 4.0 + (age-20) / 4.0;
        return height - 100;
    }

    public double getIdealWeight()
    {
        if (gender.equals("M") || gender.equals("m"))
        {
            return getNormalWeight() * 0.85;
        }
        else
        {
            return getNormalWeight() * 0.9;
        }
    }

    public double getBMI()
    {
        return weight / Math.pow(height / 100, 2);
    }

    public String getComment()
    {
        if (age < 19)
        {
            return "Under 19 years: no BMI defined.";
        }
        else
        {
            double bmi = getBMI();

            //adaptation du bmi selon l'âge
            if (age >= 65)
                bmi = bmi - 3;
            else if (age >= 55)
                bmi = bmi - 2;
            else if (age >= 45)
                bmi = bmi - 1;
            else if (age >= 35)
                bmi = bmi - 0;
            else if (age >= 25)
                bmi = bmi + 1;
            else
                bmi = bmi + 2;

            //Commentaires
            if (gender.equals("M") || gender.equals("m"))
            {
                //Femmes
                if (bmi > 32.3)
                    return "Obese";
                else if (bmi >= 27.3)
                    return "Overweight";
                else if (bmi >= 25.8)
                    return "Tendency overweight";
                else if (bmi >= 19.1)
                    return "Normal/ideal";
                else
                    return "Underweight";
            }
            else
            {
                //Hommes
                if (bmi > 31.1)
                    return "Obese";
                else if (bmi >= 27.8)
                    return "Overweight";
                else if (bmi >= 26.4)
                    return "Tendency overweight";
                else if (bmi >= 20.7)
                    return "Normal/ideal";
                else
                    return "Underweight";
            }
        }
    }
}
```

```

public class MainFrame extends javax.swing.JFrame
{
    private Person person = null;

    public MainFrame()
    {
        initComponents();
    }
    // Skipped: ... initComponents { ... }
    private void displayStatsButtonActionPerformed(java.awt.event.ActionEvent evt) //GEN-FIRST:event_displayStatsButtonActionPerformed
    { //GEN-HEADEREND:event_displayStatsButtonActionPerformed
        // sets the correct value for the gender (restricts to M or F only)
        String gender;
        if (genderTextField.getText().equals("M") || genderTextField.getText().equals("m"))
            gender = "M";
        else
            gender = "F";

        // create new object
        person = new Person(Integer.valueOf(ageTextField.getText()),
            Double.valueOf(heightTextField.getText()),
            Double.valueOf(bodyMassTextField.getText()),
            gender);

        // update view
        normalWeightLabel.setText(String.valueOf(person.getNormalWeight()));
        idealWeightLabel.setText(String.valueOf(person.getIdealWeight()));
        BMILabel.setText(String.valueOf(person.getBMI()));
        categoryLabel.setText(person.getComment());
    } //GEN-LAST:event_displayStatsButtonActionPerformed

    /**
     * @param args the command line arguments
     */
    public static void main(String args[])
    {
        java.awt.EventQueue.invokeLater(new Runnable()
        {
            public void run()
            {
                new MainFrame().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify //GEN-BEGIN:variables
    private javax.swing.JLabel BMILabel;
    private javax.swing.JTextField ageTextField;
    private javax.swing.JTextField bodyMassTextField;
    private javax.swing.JLabel categoryLabel;
    private javax.swing.JButton displayStatsButton;
    private javax.swing.JTextField genderTextField;
    private javax.swing.JTextField heightTextField;
    private javax.swing.JLabel idealWeightLabel;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel10;
    private javax.swing.JLabel jLabel11;
    private javax.swing.JLabel jLabel12;
    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.JLabel normalWeightLabel;
    // End of variables declaration //GEN-END:variables
}

```