

```
/**
 * Manipulation des statistiques corporelles en faisant la différence entre homme et femme.
 *
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 * @version 10/12/2015 7:23:50
 * Classe: 11TG
 */
public class BodyStatistics
{
    private int age = 0;
    private double height = 0;
    private double weight = 0;
    private int sex = 0;

    public BodyStatistics(int pAge, double pHeight, double pWeight, int pSex)
    {
        age = pAge;
        height = pHeight;
        weight = pWeight;
        sex = pSex;
    }

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

    public double getIdealWeight()
    {
        double v;
        if (sex == 0)
            v = 0.9; // homme
        else
            v = 0.85; // femme

        return getNormalWeight() * v;
    }

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

    public double getAdaptedBMI()
    {
        int f;

        if (age < 25)
        {
            f = -2;
        }
        else
        {
            if (age < 35)
            {
                f = -1;
            }
            else
            {
                if (age < 45)
                {
                    f = 0;
                }
                else
                {
                    if (age < 55)
                    {
                        f = +1;
                    }
                    else
                    {
                        if (age < 65)
                            f = +2;
                        else
                            f = +3;
                    }
                }
            }
        }
        return f + getBMI();
    }
}
```

```
public String getComment()
{
    // Version assez simple
    String res = "";
    double bmi = getAdaptedBMI();
    if (sex == 0)
    {
        // homme
        if (bmi < 20.7)
        {
            res = "Maigreux";
        }
        else
        {
            if (bmi < 26.4)
            {
                res = "Poids idéal";
            }
            else
            {
                if (bmi < 27.8)
                {
                    res = "À la limite du surpoids";
                }
                else
                {
                    if (bmi < 31.1)
                    {
                        res = "Surpoids";
                    }
                    else
                    {
                        res = "Obésité";
                    }
                }
            }
        }
    }
    else
    {
        // femme
        if (bmi < 19.1)
        {
            res = "Maigreux";
        }
        else
        {
            if (bmi < 25.8)
            {
                res = "Poids idéal";
            }
            else
            {
                if (bmi < 27.3)
                {
                    res = "À la limite du surpoids";
                }
                else
                {
                    if (bmi < 32.3)
                    {
                        res = "Surpoids";
                    }
                    else
                    {
                        res = "Obésité";
                    }
                }
            }
        }
    }
    return res;
}
```

```
public String getComment_v2()
{
    // Version plus complexe à comprendre
    String res = "";
    double bmi = getAdaptedBMI();
    if (((sex==0)&&(bmi < 20.7)) || ((sex==1)&&(bmi < 19.1)))
    {
        res = "Maigreur";
    }
    else
    {
        if (((sex==0)&&(bmi < 26.4)) || ((sex==1)&&(bmi < 25.8)))
        {
            res = "Poids idéal";
        }
        else
        {
            if (((sex==0)&&(bmi < 27.8)) || ((sex==1)&&(bmi < 27.3)))
            {
                res = "À la limite du surpoids";
            }
            else
            {
                if (((sex==0)&&(bmi < 31.1)) || ((sex==1)&&(bmi < 32.3)))
                {
                    res = "Surpoids";
                }
                else
                {
                    res = "Obésité";
                }
            }
        }
    }
}
return res;
}
```