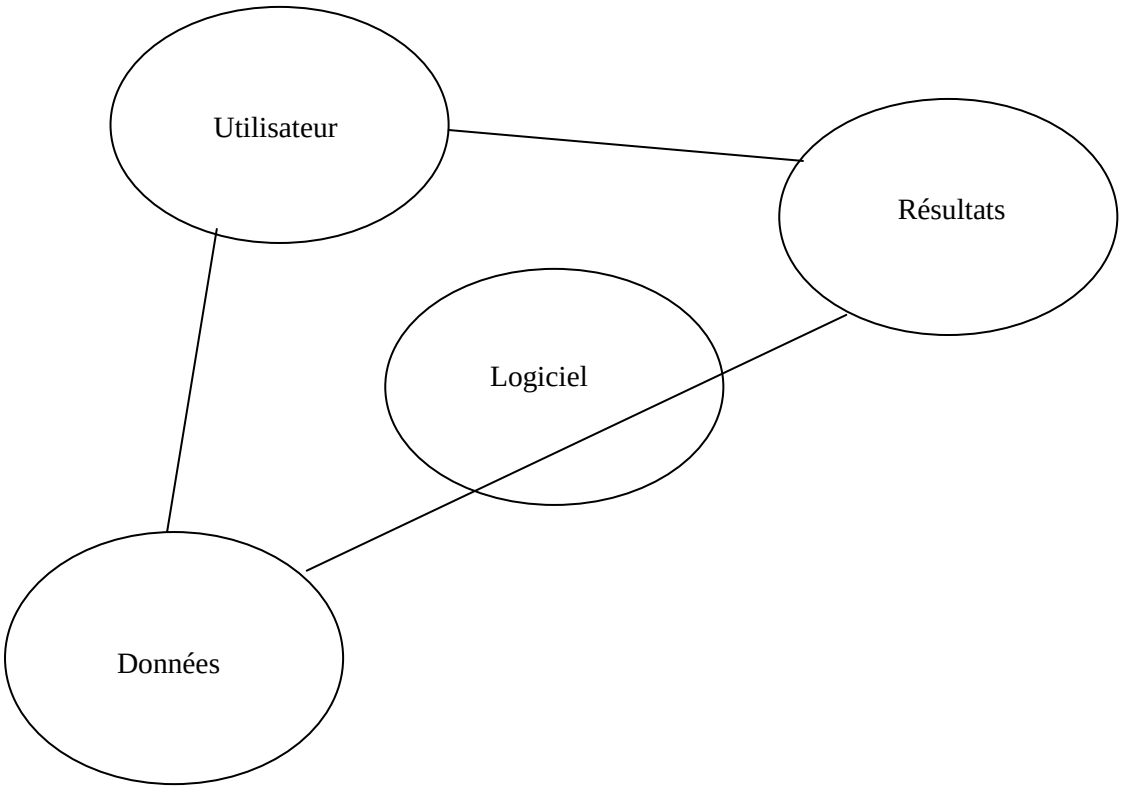
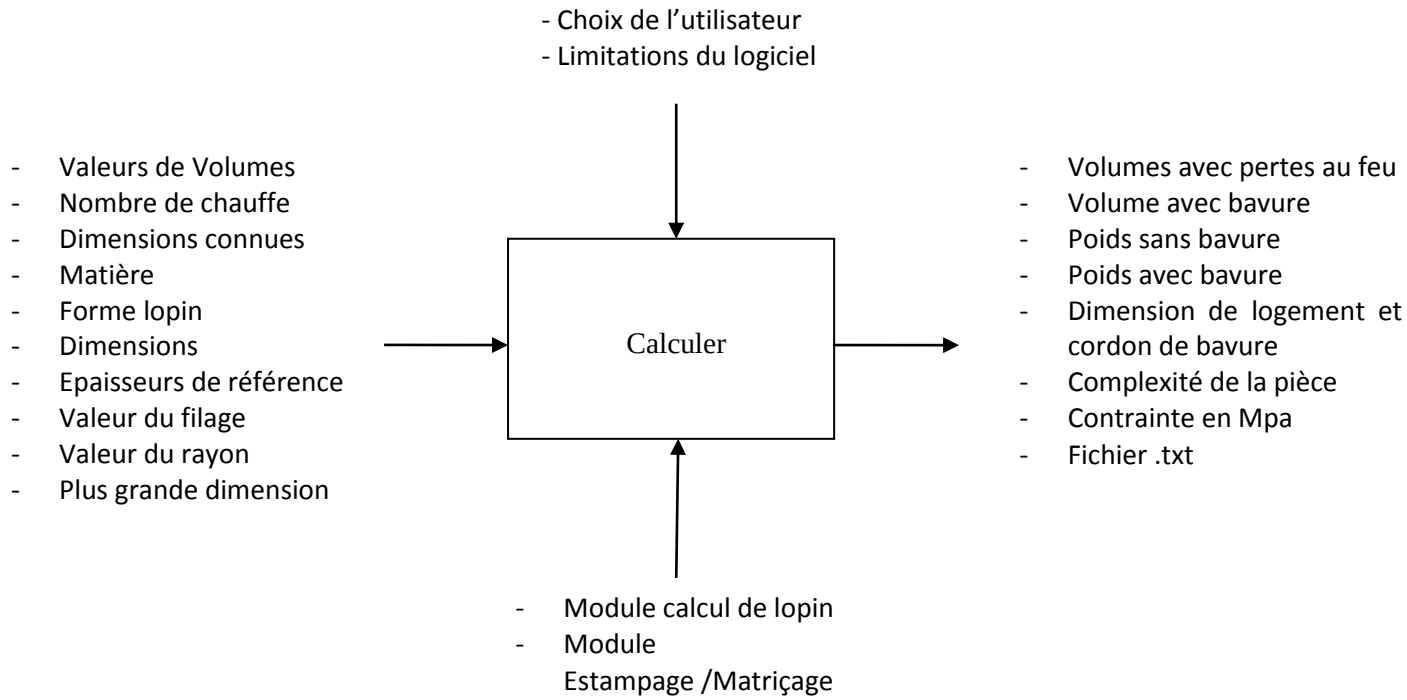
Michalowski Florian
ESFF 1er année

Algorithme / Analyse fonctionnelle du programme

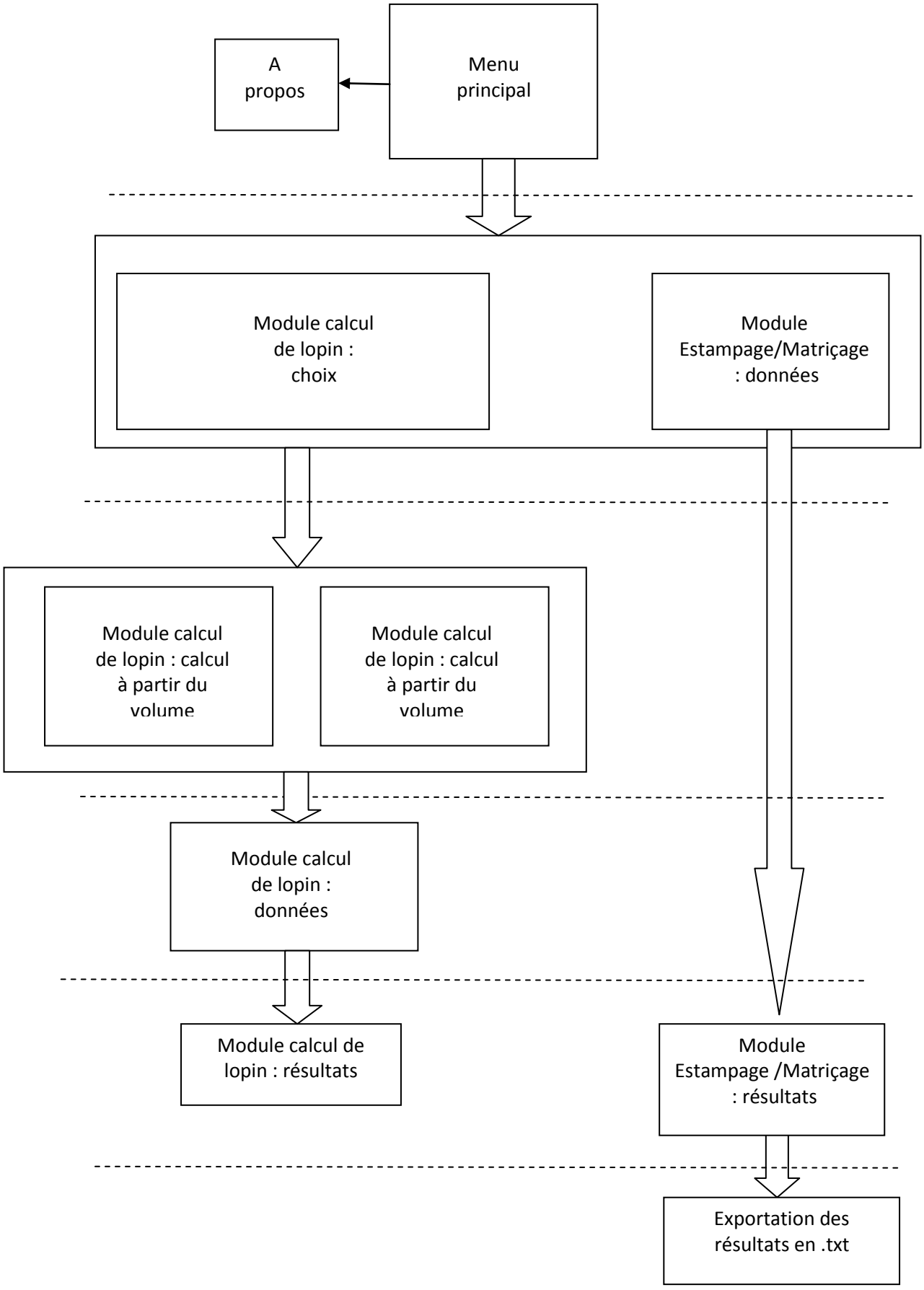
I -«diagramme pieuvre » ou diagramme d'association :



II- Analyse fonctionnelle descendante :



III- Hiérarchisation du système :



IV- Algorithme du programme :

1) Module calcul du lopin :

A) Calcul du volume à partir des dimensions

i) Emplacement des saisies

Diamètre ou Coté = textbox2.text
Longueur = textbox1.text
Nombre de chauffes = textbox3.text
Pertes au feu définis par nombre de chauffe (majoration de 2,5% à chaque chauffe)

ii) Si le lopin est rond :

Volume = $S \times L$

Section = $(\pi \times d^2) \div 4$

Volume avec pertes au feu = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur finale = Volume finale / section

iii) Si le lopin est carré :

Volume = $S \times L$

S = C^2

Volume final (avec pertes au feu) = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur finale = Volume finale / section

iv) Calcul de la masse :

Si acier sélectionner : m = Vfinal x 0,00785
Si aluminium sélectionner : m = Vfinal x 0,0027
Si laiton sélectionner : m = Vfinal x 0,0084
Si cuivre sélectionner : m = Vfinal x 0,00892
Si titane sélectionner : m = V final x 0,004507

B) calcul des dimensions à partir du volume :

i) Emplacement des saisies

Volume = textbox1.text
Nombre de chauffes = textbox2.text
Valeur de la dimension connu (selon choix utilisateur) = textbox3.text

Pertes au feu définis par nombre de chauffe (majoration de 2,5% à chaque chauffe)

ii) Si *le lopin est rond et la dimension connue est le diamètre :*

Volume final (avec pertes au feu) = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur = Vfinal / $((\pi \times d^2) \div 4)$

iii) Si le lopin est rond et la longueur est connue :

Volume final (avec pertes au feu) = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur avec pertes au feu = longueur + $(x\big((\text{longueur} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Diamètre = V final / longueur final

iv) Si le lopin est carré et la dimension connue est le coté :

Volume final (avec pertes au feu) = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur = Volume final / coté^2

v) Si le lopin est carré et la dimension connue est la longueur :

Volume final (avec pertes au feu) = Volume + $(x\big((\text{volume} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Longueur avec pertes au feu = longueur + $(x\big((\text{longueur} \times 2{,}5) \div 100\big))$ avec x = nombre de chauffes prévues

Coté = $\sqrt{(Vfinal \div longueur\ finale)}$

vi) Calcul de la masse :

Si acier sélectionner : m = Vfinal x 0,00785
Si aluminium sélectionner : m = Vfinal x 0,0027
Si laiton sélectionner : m = Vfinal x 0,0084
Si cuivre sélectionner : m = Vfinal x 0,00892
Si titane sélectionner : m = V final x 0,004507

2) Module estampage/matriçage :

i) Emplacement des saisies

Volume = textbox2.text
Valeur de la plus grande dimension pièce (L ou D selon choix utilisateur) = Textbox1.text
Valeur de e (épaisseur de référence) = Textbox3.text
Valeur de h (hauteur de filage) = textbox4.text
Valeur de rayon (r) = Textbox5.text

ii) Calcul du cordon et du logement de bavure :

$$\lambda = (0{,}032 \times volume) + 4{,}3$$

$$b = (0{,}065 \times volume) + 15$$

si b < 20 alors b = 20

h = (0,018 x volume) + 1,3

si h < 3 alors h = 3

r = (0,065 x volume) + 0,7

iii) Calcul de la complexité :

h/e = hauteur du filage / épaisseur de référence

r/L si longueur est sélectionnée

2r/D si diamètre sélectionner

iv) Détermination selon le rapport h/e :

Si h/e ≤ 1 alors Pièce extra simple (Pas de filage)
Si 1 > h/e ≤ 1,5 alors pièce simple (pas de filage)
Si 1,5 > h/e ≤ 2 alors pièce semi-simple (filage insignifiant)
Si 2 > h/e ≤ 2,5 alors pièce semi-complexe (léger filage)
Si 2,5 > h/e ≤ 3 alors pièce complexe (filage important)
Si h/e >3 alors pièce très complexe (filage important)

v) Détermination de la complexité selon le rapport r/l ou 2r/D :

Si r/l ou 2r/D > 0,035 alors pièce extra simple (pas de filage)
Si 0,032 > r/l ou 2r/D ≤ 0,035 alors pièce simple (pas de filage
Si 0,029 > r/l ou 2r/D ≤ 0,032 alors pièce semi-simple (filage insignifiant)
Si 0,027 > r /l ou 2r/D ≤ 0,029 alors pièce semi-complexe (léger filage)
Si 0,025 > r/l ou 2r/D ≤ 0,027 alors pièce complexe (filage important)
Si r/l ou 2r/D < 0,025 alors pièce très complexe (filage important)

vi) Calcul du rapport λ/e :

Si r/l ou 2r/D > 0,036 alors λ/e = 3,75
Si 0,035 < r/l ou 2r/D ≤ 0,036 alors λ/e = 4
Si 0,0335< r/l ou 2r/D ≤ 0,035 alors λ/e = 4,25
Si 0,032< r/l ou 2r/D ≤ 0,0335 alors λ/e = 4,5
Si 0,0315< r/l ou 2r/D ≤ 0,032 alors λ/e = 4,75
Si 0,029< r/l ou 2r/D ≤ 0,0315 alors λ/e = 5
Si 0,028< r/l ou 2r/D ≤ 0,029 alors λ/e = 5,25
Si 0,027< r/l ou 2r/D ≤ 0,028 alors λ/e = 5,5
Si 0,026< r/l ou 2r/D ≤ 0,027 alors λ/e = 5,75
Si 0,025< r/l ou 2r/D ≤ 0,026 alors λ/e = 6
Si 0,023< r/l ou 2r/D ≤ 0,025 alors λ/e = 6,25
Si r/l ou 2r/D ≤ 0,023 alors λ/e = 6,5

vii) Calcul de ε :

$$\varepsilon = \frac{rapport\ \frac{\lambda}{e}}{\lambda}$$

viii) Détermination de p et de q :

Si r/l ou 2r/D > 0,036 alors p = 490
q = 280
Si 0,035 < r/l ou 2r/D ≤ 0,036 alors p = 490
q = 280
Si 0,0335< r/l ou 2r/D ≤ 0,035 alors p = 500
q = 285
Si 0,032< r/l ou 2r/D ≤ 0,0335 alors p = 520
q = 290
Si 0,0315< r/l ou 2r/D ≤ 0,032 alors p = 540
q = 300
Si 0,029< r/l ou 2r/D ≤ 0,0315 alors p = 560
q = 310
Si 0,028< r/l ou 2r/D ≤ 0,029 alors p = 580
q = 320
Si 0,027< r/l ou 2r/D ≤ 0,028 alors p = 600
q = 330
Si 0,026< r/l ou 2r/D ≤ 0,027 alors p = 625
q = 350
Si 0,025< r/l ou 2r/D ≤ 0,026 alors p = 650
q = 360
Si 0,023< r/l ou 2r/D ≤ 0,025 alors p = 690
q = 370
Si r/l ou 2r/D ≤ 0,023 alors p = 720
q = 380

xi) *Volume total :*

x) Si la plus grande dimension est le diametre (pièce de révolution) :

Volume total = volume + $((\lambda \times \varepsilon) \times 2 \times \pi \times ((diametre \div 2) + ((\lambda \times \varepsilon) \div 2)$

xi) Si la plus grande dimension est une longueur :

Volume total = volume + $\big((\lambda \times \varepsilon) \times longueur\big) \times 2$)

xii) Masse totale :

Si acier sélectionner : m = Vtotal x 0,00785
Si aluminium sélectionner : m = Vtotal x 0,0027
Si laiton sélectionner : m = Vtotal x 0,0084
Si cuivre sélectionner : m = Vtotal x 0,00892
Si titane sélectionner : m = V total x 0,004507

V- Code source :

Page d'accueil

```
Public Class Form1
    Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    End Sub
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click
        Dim formSecondaire As New Form3()

        formSecondaire.ShowDialog()

    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click
        Dim formSecondaire As New Form5()

        formSecondaire.ShowDialog()

    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click

        'demande confirmation avant de quitter

        quit = MsgBox("Voulez vous quitter?", vbQuestion + vbYesNo + 256,
"Attention")
        If quit = vbYes Then
            Application.Exit()
        End If

    End Sub

    Private Sub Button4_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button4.Click

        Dim formSecondaire As New Form2()

        formSecondaire.ShowDialog()

    End Sub
End Class
```

Form « à propos »:

```
Public Class Form2

    Private Sub Form2_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    End Sub

    Private Sub PictureBox1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles PictureBox1.Click
        PictureBox1.Image = Image.FromFile("esff.bmp")
    End Sub

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

        Close()

    End Sub
End Class
```

Form “Module calcul du lopin : choix” :

```
Public Class Form7

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

        Form8.Show()



    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click

        Close()

    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

        Form3.Show()


    End Sub
End Class
```

Form «Module calcul du lopin : à partir du volume» :

```
Public Class Form3

    Public Sub Form3_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

        'remplissage des listbox

        ListBox1.Items.Add("carré")
        ListBox1.Items.Add("rond")

        ListBox2.Items.Add("acier")
        ListBox2.Items.Add("aluminium")
        ListBox2.Items.Add("laiton")
        ListBox2.Items.Add("cuivre")
        ListBox2.Items.Add("titane")

    End Sub


    Private Sub TextBox1_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox1.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True
```

```
        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True
    End Sub

    Private Sub TextBox3_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox3.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub ListBox1_SelectedIndexChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles ListBox1.SelectedIndexChanged

    End Sub

    Private Sub TextBox2_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox2.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub ListBox2_SelectedIndexChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles ListBox2.SelectedIndexChanged

    End Sub

    Public Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

        'demande valeur si non saisie

        While TextBox1.Text = ""

            MsgBox("veuillez entrer une valeur de volume", 16 + vbYes + 0,
"Attention")


            Exit Sub

        End While
```

```
        While TextBox3.Text = ""

            MsgBox("veuillez entrer une valeur de perte au feu (mettre 0 si
inconnue)", 16 + vbYes + 0, "Attention")


            Exit Sub

        End While

        Form4.Show()

        'pertes aux feu

        Form4.TextBox1.Text = TextBox1.Text * (1 + ((TextBox3.Text * 2.5) /
100))

        'calcul poids

        If ListBox2.SelectedItem = "acier" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.00785

        End If

        If ListBox2.SelectedItem = "aluminium" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.0027

        End If

        If ListBox2.SelectedItem = "laiton" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.0084

        End If

        If ListBox2.SelectedItem = "cuivre" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.00892

        End If

        If ListBox2.SelectedItem = "titane" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.004507

        End If

        'calcul dimensions lopin selon selection

        If ListBox1.SelectedItem = "carré" Then

            Form4.TextBox4.Text = Form4.TextBox1.Text / (TextBox2.Text ^ 2)

        End If
```

```
        If ListBox1.SelectedItem = "rond" Then

            Form4.TextBox4.Text = Form4.TextBox1.Text / (((3.141592654 *
(TextBox2.Text) ^ 2) / 4))

        End If

        Form4.TextBox3.Text = TextBox2.Text

    End Sub

    Public Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

        'effacement des textbox avec bouton annuler

        TextBox1.Text = ""
        TextBox3.Text = ""
        TextBox2.Text = ""
        ListBox1.SelectedIndices.Clear()
        ListBox2.SelectedIndices.Clear()


    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click
        Close()
    End Sub

    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox1.TextChanged

    End Sub

    Private Sub TextBox2_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox2.TextChanged

    End Sub
End Class
```

Form “module calcul des dimensions à partir du volume » :

```
Public Class Form8
    Private Sub Form8_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load
        'remplissage des listbox

        ListBox1.Items.Add("acier")
        ListBox1.Items.Add("aluminium")
        ListBox1.Items.Add("laiton")
        ListBox1.Items.Add("cuivre")
        ListBox1.Items.Add("titane")

    End Sub

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

        'demande valeur si non saisie

        While TextBox1.Text = ""

            MsgBox("veuillez entrer une valeur de volume", 16 + vbYes + 0,
"Attention")

            Exit Sub

        End While

        While TextBox2.Text = ""

            MsgBox("veuillez entrer une valeur de perte au feu (mettre 0 si
inconnue)", 16 + vbYes + 0, "Attention")


            Exit Sub

        End While

        While TextBox3.Text = "" And RadioButton3.Checked = True

            MsgBox("veuillez entrer une valeur de côté ou diamètre ", 16 +
vbYes + 0, "Attention")


            Exit Sub

        End While

        While RadioButton4.Checked = True And TextBox3.Text = ""

            MsgBox("Veuillez Entrer la valeur de la longueur", 16 + vbYes +
0, "Attention")

            Exit Sub

        End While

        While RadioButton1.Checked = False And RadioButton2.Checked = False
```

```
            MsgBox("Veuillez choisir la forme du lopin de départ", 16 +
vbYes + 0, "Attention")

            Exit Sub

        End While


        While RadioButton3.Checked = False And RadioButton4.Checked = False

            MsgBox("Veuillez Indiquer la dimension connue", 16 + vbYes + 0,
"Attention")


            Exit Sub

        End While

        Form4.Show()

        Form4.TextBox1.Text = Me.TextBox1.Text + (((Me.TextBox1.Text * 2.5)
/ 100) * Me.TextBox2.Text)

        'calcul poids

        If ListBox1.SelectedItem = "acier" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.00785

        End If

        If ListBox1.SelectedItem = "aluminium" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.0027

        End If

        If ListBox1.SelectedItem = "laiton" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.0084

        End If

        If ListBox1.SelectedItem = "cuivre" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.00892

        End If

        If ListBox1.SelectedItem = "titane" Then

            Form4.TextBox2.Text = Form4.TextBox1.Text * 0.004507

        End If


        'calcul des dimensions

        'pour du rond si le diametre est connu
```

```
        If RadioButton1.Checked = True And RadioButton3.Checked = True Then

            Form4.TextBox3.Text = Me.TextBox3.Text

            Form4.TextBox4.Text = Form4.TextBox1.Text / ((3.141592654 *
(Me.TextBox3.Text) ^ 2) / 4)


        End If

        'pour du rond avec la longueur connue

        If RadioButton1.Checked = True And RadioButton4.Checked = True Then

            Form4.TextBox4.Text = Me.TextBox3.Text + (((TextBox3.Text *
2.5) / 100) * Me.TextBox2.Text)

            Form4.TextBox3.Text = (((Form4.TextBox1.Text /
Form4.TextBox4.Text) * 4) / 3.141592654) ^ 0.5

        End If

        'pour du carré avec la valeur du coté connu

        If RadioButton2.Checked = True And RadioButton3.Checked = True Then

            Form4.TextBox3.Text = Me.TextBox3.Text

            Form4.TextBox4.Text = Form4.TextBox1.Text / (Me.TextBox3.Text ^
2)


        End If

        If RadioButton2.Checked = True And RadioButton4.Checked = True Then

            Form4.TextBox4.Text = Me.TextBox3.Text + ((TextBox3.Text * 2.5)
/ 100)

            Form4.TextBox3.Text = (Form4.TextBox1.Text /
Form4.TextBox4.Text) ^ 0.5

        End If




    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click

        'effacement et fermeture du formulaire

        TextBox1.Text = ""
        TextBox2.Text = ""
        TextBox3.Text = ""
        ListBox1.SelectedIndices.Clear()
```

```
        Me.Close()


    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

        'effacement des saisies

        TextBox1.Text = ""
        TextBox2.Text = ""
        TextBox3.Text = ""
        ListBox1.SelectedIndices.Clear()

    End Sub

    Private Sub TextBox1_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox1.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox2_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox2.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox3_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox3.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True
```

```
        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True
    End Sub


    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox1.TextChanged

    End Sub
End Class
```

Form «Module forge libre : calculs»:

```
Public Class Form4

    Public Sub Form4_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    End Sub

    Public Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click
        'effacement des textbox avant de quitter

        TextBox1.Text = " "
        TextBox2.Text = " "
        TextBox3.Text = " "
        TextBox4.Text = " "
        Me.Close()
 End Sub
    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox1.TextChanged

    End Sub

    Private Sub TextBox2_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox2.TextChanged

    End Sub

    Private Sub TextBox3_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox3.TextChanged

    End Sub

    Private Sub TextBox4_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox4.TextChanged

    End Sub
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

'exportations des résultats
        Form5.Show()

        Form5.TextBox2.Text = Me.TextBox1.Text

        Me.Close()
    End Sub
End Class
```

Form «Module estampage/matriçage : données» :

```
Public Class Form5

    Public Sub Form5_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

        'ajout des item dans listbox matériaux

        ListBox1.Items.Add("acier")
        ListBox1.Items.Add("aluminium")
        ListBox1.Items.Add("laiton")
        ListBox1.Items.Add("cuivre")
        ListBox1.Items.Add("titane")

    End Sub

    Public Sub ListBox1_SelectedIndexChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles ListBox1.SelectedIndexChanged

    End Sub

    Private Sub TextBox2_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox2.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox1_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox1.KeyPress
      'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox3_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox3.KeyPress

        'limitation des caractères lettres interdites transformation des
points en virgules

        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","
```

```
        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

        'demande de la valeur si non saisie

        While TextBox2.Text = ""

            MsgBox("veuillez entrer une valeur de volume", 16 + vbYes + 0,
"Attention")

            Exit Sub

        End While

        While TextBox1.Text = ""

            MsgBox("veuillez  entrer  la  valeur  L  ou  D  (mettre  0  si
inconnue)", 16 + vbYes + 0, "Attention")


            Exit Sub
 End While
        While TextBox3.Text = ""

            MsgBox("veuillez entrer la valeur de e (mettre 0 si inconnue)",
16 + vbYes + 0, "Attention")
      Exit Sub

        End While

        While TextBox4.Text = ""

            MsgBox("veuillez  entrer  la  valeur  pour  h",  16  +  vbYes  +  0,
"Attention")

            Exit Sub

        End While

        Form6.Show()


        Form6.TextBox1.Text = TextBox2.Text


        'calcul masse

        If ListBox1.SelectedItem = "acier" Then

            Form6.TextBox2.Text = TextBox2.Text * 0.00785
```

```
End If
If ListBox1.SelectedItem = "aluminium" Then
    Form6.TextBox2.Text = TextBox2.Text * 0.0027
End If
If ListBox1.SelectedItem = "laiton" Then
    Form6.TextBox2.Text = TextBox2.Text * 0.0084
End If
If ListBox1.SelectedItem = "cuivre" Then
    Form6.TextBox2.Text = TextBox2.Text * 0.00892
End If
If ListBox1.SelectedItem = "titane" Then
    Form6.TextBox2.Text = TextBox2.Text * 0.004507
End If
'calcul du cordon et logement de bavure
Form6.TextBox8.Text = TextBox1.Text
Form6.TextBox3.Text = (0.032 * TextBox1.Text) + 4.3
Form6.TextBox4.Text = (0.065 * TextBox1.Text) + 17
If Form6.TextBox4.Text < 20 Then
    Form6.TextBox4.Text = 20
End If
Form6.TextBox6.Text = (0.018 * TextBox1.Text) + 1.3
If Form6.TextBox6.Text < 3 Then
    Form6.TextBox6.Text = 3
End If
Form6.TextBox7.Text = (0.0065 * TextBox1.Text) + 0.7

'calcul complexité
Form6.TextBox9.Text = TextBox4.Text / TextBox3.Text
If RadioButton1.Checked = True Then
    Form6.TextBox10.Text = TextBox5.Text / TextBox1.Text
ElseIf RadioButton2.Checked = True Then
```

```
            Form6.TextBox10.Text = (2 * TextBox5.Text) / TextBox1.Text

        ElseIf RadioButton1.Checked = False And RadioButton2.Checked =
False Then

            MsgBox("Veuillez choisir un type de relevé", 16 + vbYes + 0,
"Attention")

            Exit Sub

        End If


        'détermination de la complexité rapport h/e

        If Form6.TextBox9.Text <= 1 Then

            Form6.TextBox12.Text = "Pièce extra simple (Pas de filage)"

        ElseIf Form6.TextBox9.Text > 1 And Form6.TextBox9.Text <= 1.5 Then

            Form6.TextBox12.Text = "Pièce simple (pas de filage)"

        ElseIf Form6.TextBox9.Text > 1.5 And Form6.TextBox9.Text <= 2 Then

            Form6.TextBox12.Text    =    "Pièce    semi-simple    (filage
insignifiant)"

        ElseIf Form6.TextBox9.Text > 2 And Form6.TextBox9.Text <= 2.5 Then

            Form6.TextBox12.Text = "Pièce semi-complexe (léger filage)"

        ElseIf Form6.TextBox9.Text > 2.5 And Form6.TextBox9.Text <= 3 Then

            Form6.TextBox12.Text = "Pièce complexe (filage important)"

        ElseIf Form6.TextBox9.Text > 3 Then

            Form6.TextBox12.Text  =  "Pièce  très  complexe  (filage  très
important)"


        End If

        'détermination de la complexité rapport r/l ou 2r/D

        If Form6.TextBox10.Text > 0.035 Then

            Form6.TextBox13.Text = "Pièce extra simple (Pas de filage)"

        ElseIf  Form6.TextBox10.Text  <=  0.035  And  Form6.TextBox10.Text  >
0.032 Then

            Form6.TextBox13.Text = "Pièce simple (pas de filage)"

        ElseIf  Form6.TextBox10.Text  <=  0.032  And  Form6.TextBox10.Text  >
0.029 Then

            Form6.TextBox13.Text    =    "Pièce    semi-simple    (filage
insignifiant)"
```

```
        ElseIf  Form6.TextBox10.Text  <=  0.029  And  Form6.TextBox10.Text  >
0.027 Then

            Form6.TextBox13.Text = "Pièce semi-complexe (léger filage)"

        ElseIf  Form6.TextBox10.Text  <=  0.027  And  Form6.TextBox10.Text  >
0.025 Then

            Form6.TextBox13.Text = "Pièce complexe (filage important)"

        ElseIf Form6.TextBox10.Text < 0.025 Then

            Form6.TextBox13.Text  =  "Pièce  très  complexe  (filage  très
important)"


        End If

        'calcul rapport lambda sur epsilon
        Dim i As Decimal

        For i = 0 To 20

        Next

        i = Form6.TextBox10.Text


        If i > 0.036 Then

            Form6.TextBox14.Text = "3,75"

        ElseIf i <= 0.036 And i > 0.035 Then

            Form6.TextBox14.Text = "4"

        ElseIf i <= 0.035 And i > 0.0335 Then

            Form6.TextBox14.Text = "4,25"

        ElseIf i <= 0.0335 And i > 0.032 Then

            Form6.TextBox14.Text = "4,5"

        ElseIf i <= 0.032 And i > 0.0315 Then

            Form6.TextBox14.Text = "4,75"

        ElseIf i <= 0.0315 And i > 0.029 Then

            Form6.TextBox14.Text = "5"

        ElseIf i <= 0.029 And i > 0.028 Then

            Form6.TextBox14.Text = "5,25"

        ElseIf i <= 0.028 And i > 0.027 Then

            Form6.TextBox14.Text = "5,5"
```

```
ElseIf i <= 0.027 And i > 0.026 Then

    Form6.TextBox14.Text = "5,75"


ElseIf i <= 0.026 And i > 0.025 Then

    Form6.TextBox14.Text = "6"

ElseIf i <= 0.025 And i > 0.023 Then

    Form6.TextBox14.Text = "6,25"

ElseIf i <= 0.023 Then

    Form6.TextBox14.Text = "6,5"
End If


'calcul epsilon

Dim a As Double
Dim b As Double
a = Form6.TextBox14.Text
b = Form6.TextBox3.Text
Form6.TextBox5.Text = a / b

If Form6.TextBox5.Text < 1.5 Then

    Form6.TextBox5.Text = 1.5

End If

'détermination de p et de q

If i > 0.036 Then

    Form6.TextBox11.Text = "490"
    Form6.TextBox15.Text = "280"

ElseIf i <= 0.036 And i > 0.035 Then

    Form6.TextBox11.Text = "490"
    Form6.TextBox15.Text = "280"

ElseIf i <= 0.035 And i > 0.0335 Then

    Form6.TextBox11.Text = "500"
    Form6.TextBox15.Text = "285"

ElseIf i <= 0.0335 And i > 0.032 Then

    Form6.TextBox11.Text = "520"
    Form6.TextBox15.Text = "290"

ElseIf i <= 0.032 And i > 0.0315 Then

    Form6.TextBox11.Text = "540"
    Form6.TextBox15.Text = "300"

ElseIf i <= 0.0315 And i > 0.029 Then
```

```
            Form6.TextBox11.Text = "560"
            Form6.TextBox15.Text = "310"

        ElseIf i <= 0.029 And i > 0.028 Then

            Form6.TextBox11.Text = "580"
            Form6.TextBox15.Text = "320"

        ElseIf i <= 0.028 And i > 0.027 Then

            Form6.TextBox11.Text = "600"
            Form6.TextBox15.Text = "330"

        ElseIf i <= 0.027 And i > 0.026 Then

            Form6.TextBox11.Text = "625"
            Form6.TextBox15.Text = "350"

        ElseIf i <= 0.026 And i > 0.025 Then

            Form6.TextBox11.Text = "650"
            Form6.TextBox15.Text = "360"

    Elseif i <= 0.025 And i > 0.023 Then

            Form6.TextBox11.Text = "690"
            Form6.TextBox15.Text = "370"

        ElseIf i <= 0.023 Then

            Form6.TextBox11.Text = "720"
            Form6.TextBox15.Text = "380"

        End If


        'v total

        If RadioButton1.Checked = True Then

            Form6.TextBox16.Text = TextBox2.Text + ((((Form6.TextBox3.Text
* Form6.TextBox5.Text) * TextBox1.Text)) * 2)

        ElseIf RadioButton2.Checked = True Then

            Form6.TextBox16.Text = TextBox2.Text + ((Form6.TextBox3.Text *
Form6.TextBox5.Text) * 2 * 3.141592654 * ((TextBox1.Text / 2) +
((Form6.TextBox3.Text * Form6.TextBox5.Text) / 2)))

        End If

        'masse totale

        If ListBox1.SelectedItem = "acier" Then

            Form6.TextBox17.Text = Form6.TextBox16.Text * 0.00785

        End If

        If ListBox1.SelectedItem = "aluminium" Then
```

```
            Form6.TextBox17.Text = Form6.TextBox16.Text * 0.0027

        End If

        If ListBox1.SelectedItem = "laiton" Then

            Form6.TextBox17.Text = Form6.TextBox16.Text * 0.0084

        End If

        If ListBox1.SelectedItem = "cuivre" Then

            Form6.TextBox17.Text = Form6.TextBox16.Text * 0.00892

        End If

        If ListBox1.SelectedItem = "titane" Then

            Form6.TextBox17.Text = Form6.TextBox16.Text * 0.004507

        End If

    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

        'effacement des textbox avec bouton annuler

        TextBox1.Text = ""
        TextBox3.Text = ""
        TextBox2.Text = ""
        TextBox4.Text = ""
        TextBox5.Text = ""
        ListBox1.SelectedIndices.Clear()


    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click
        Close()


    End Sub

    Private Sub PictureBox1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs)

    End Sub

    Private Sub TextBox4_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox4.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True
```

```
        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox5_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs) Handles TextBox5.KeyPress
        'limitation des caractères lettres interdites transformation des
points en virgules
        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If Asc(e.KeyChar) = 44 And (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If Char.IsDigit(e.KeyChar) = False And Asc(e.KeyChar) <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox4_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox4.TextChanged

    End Sub

    Public Sub TextBox3_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox3.TextChanged

    End Sub

    Private Sub TextBox5_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox5.TextChanged

    End Sub

    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox1.TextChanged

    End Sub

    Private Sub RadioButton1_CheckedChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles RadioButton1.CheckedChanged

    End Sub

    Private Sub RadioButton2_CheckedChanged(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles RadioButton2.CheckedChanged

    End Sub

    Private Sub TextBox2_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox2.TextChanged

    End Sub
End Class
```

Form «Module estampage/matriçage : calculs» :

```
Public Class Form6

    Public Sub Form6_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    End Sub

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click


        'effacement es textbox avant fermeture pour éviter un eventuel bug

        TextBox1.Text = " "
        TextBox3.Text = " "
        TextBox2.Text = " "
        TextBox4.Text = " "
        TextBox5.Text = " "
        TextBox6.Text = " "
        TextBox7.Text = " "
        TextBox8.Text = " "
        TextBox9.Text = " "
        TextBox10.Text = " "
        TextBox11.Text = " "
        TextBox12.Text = " "
        TextBox13.Text = " "
        TextBox14.Text = " "
        TextBox15.Text = " "
        TextBox16.Text = " "
        TextBox17.Text = " "

Me.Close()


    End Sub

    Private Sub PictureBox1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles PictureBox1.Click

    End Sub

    Private Sub PictureBox2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs)

    End Sub

    Private Sub TextBox1_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox1.TextChanged

    End Sub

    Private Sub TextBox2_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox2.TextChanged




    End Sub
```

```
    Private Sub TextBox9_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox9.TextChanged

    End Sub

    Private Sub TextBox10_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox10.TextChanged

    End Sub

    Private Sub TextBox11_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs)

    End Sub

    Private Sub TextBox8_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox8.TextChanged

    End Sub

    Private Sub TextBox7_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox7.TextChanged

    End Sub

    Private Sub TextBox3_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs)

        'limitation des caractères

        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub

    Private Sub TextBox5_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs)

    End Sub

    Private Sub TextBox4_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox4.TextChanged

    End Sub

    Private Sub TextBox6_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox6.TextChanged

    End Sub

    Private Sub TextBox5_KeyPress(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyPressEventArgs)
```

```
        'limitation des caractères

        If Asc(e.KeyChar) = 46 Then e.KeyChar = ","

        If      Asc(e.KeyChar)      =      44      And      (CType(sender,
TextBox).Text.IndexOf(",") > 0 Or CType(sender, TextBox).Text = "") Then
e.Handled = True

        If   Char.IsDigit(e.KeyChar)   =   False   And   Asc(e.KeyChar)   <>
System.Windows.Forms.Keys.Back And Asc(e.KeyChar) <> 44 Then e.Handled =
True

    End Sub


    Private Sub Label6_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Label6.Click

    End Sub

    Private Sub TextBox11_TextChanged_1(ByVal sender As System.Object,
ByVal e As System.EventArgs)

    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs)


    End Sub

    Private Sub TextBox12_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox12.TextChanged

    End Sub

    Private Sub Label12_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Label12.Click

    End Sub

    Private Sub TextBox13_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox13.TextChanged

    End Sub
    Private Sub TextBox14_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs)


    End Sub

    Private Sub TextBox5_TextChanged_1(ByVal sender As System.Object, ByVal
e As System.EventArgs)

    End Sub

    Private Sub TextBox3_TextChanged(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles TextBox3.TextChanged

    End Sub
```

```
    Private Sub TextBox15_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox15.TextChanged

    End Sub

    Private Sub TextBox5_TextChanged_2(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox5.TextChanged

    End Sub

    Private Sub TextBox16_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox16.TextChanged

    End Sub

    Private Sub TextBox17_TextChanged(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles TextBox17.TextChanged

    End Sub

    Private Sub Button3_Click_1(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click


        'exportation des résultats en .txt

  Dim DialogSaveFile As New SaveFileDialog

        With DialogSaveFile

            .InitialDirectory = "C:"

            .Title = "Enregister sous"

            .Filter = "Fichiers .txt(*.txt)|*.txt"

            .ShowDialog()

            DialogSaveFile.CreatePrompt = True

            DialogSaveFile.OverwritePrompt = True

            If Err.Number = 32755 Then Exit Sub

            If Len(.FileName) = 0 Then Exit Sub

            Dim sFile As String = .FileName


            'exportation des résultats en .txt

            'Dim DateJour As String
            'DateJour = Date.Now.ToString("ddMMyy")
```

```
    Dim SWGlobal As System.IO.StreamWriter = New IO.StreamWriter(sFile)
        SWGlobal.WriteLine("")
        SWGlobal.Write("-----------------------------")
        SWGlobal.WriteLine("")
        SWGlobal.Write("--The Little Blachsmith V3--")
        SWGlobal.WriteLine("")
        SWGlobal.Write("--Module Estampage/Matiçage---")
        SWGlobal.WriteLine("")
        SWGlobal.Write("-----------------------------")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("")
        SWGlobal.Write("Volume pièce sans bavure en mm3 : ")
        SWGlobal.WriteLine(TextBox1.Text)
        SWGlobal.Write("Masse pièce sans bavure en g : ")
        SWGlobal.WriteLine(TextBox2.Text)
        SWGlobal.Write("Valeur lambda en mm : ")
        SWGlobal.WriteLine(TextBox3.Text)
        SWGlobal.Write("Valeur de D ou L : ")
        SWGlobal.WriteLine(TextBox8.Text)
        SWGlobal.Write("Valeur de b  : ")
        SWGlobal.WriteLine(TextBox4.Text)
        SWGlobal.Write("Valeur de h : ")
        SWGlobal.WriteLine(TextBox6.Text)
        SWGlobal.Write("Valeur de r : ")
        SWGlobal.WriteLine(TextBox7.Text)
        SWGlobal.Write("Valeur de b  : ")
        SWGlobal.WriteLine(TextBox4.Text)
        SWGlobal.Write("Valeur de epsilon : ")
        SWGlobal.WriteLine(TextBox5.Text)
        SWGlobal.Write("Volume pièce avec bavure en mm3 : ")
        SWGlobal.WriteLine(TextBox16.Text)
        SWGlobal.Write("Masse pièce avec bavure en g : ")
        SWGlobal.WriteLine(TextBox17.Text)
        SWGlobal.WriteLine("")
        SWGlobal.Write("-------------------------------------------------")
        SWGlobal.WriteLine("")
        SWGlobal.Write("---------Détermination de la complexité--------")
        SWGlobal.WriteLine("")
        SWGlobal.Write("-------------------------------------------------")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("Rapport lambda/e : ")
        SWGlobal.WriteLine(TextBox9.Text)
        SWGlobal.Write("Rapport r/L ou 2r/D : ")
        SWGlobal.WriteLine(TextBox10.Text)
        SWGlobal.WriteLine("")
        SWGlobal.Write("Complexité en fonction du rapport h/e : ")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine(TextBox12.Text)
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("Complexité en fonction du rapport r/L ou 2r/L : ")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine(TextBox13.Text)
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("-------------------------------------------------
---")
        SWGlobal.WriteLine("")
```

```
        SWGlobal.Write("-Rappel:  le  critère  d'acuité  d'arête  est
prépondérant-")
        SWGlobal.WriteLine("")
        SWGlobal.Write("-------------------------------------------------
---")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("Rapport Lambda/Epsilon : ")
        SWGlobal.WriteLine(TextBox14.Text)
        SWGlobal.WriteLine("")
        SWGlobal.Write("Valeur de P : ")
        SWGlobal.WriteLine(TextBox11.Text)
        SWGlobal.Write("Valeur de q : ")
        SWGlobal.WriteLine(TextBox15.Text)
        SWGlobal.WriteLine("")
        SWGlobal.Write("p  =  contrainte  exercée  sur  la  pièce  en  MPa  à
1050 °C")
        SWGlobal.WriteLine("")
        SWGlobal.Write("q = contrainte exercée sur le cordon de bavure en
MPa à 950 °C")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("C'est en forgeant que l'on devient forgeron...")
        SWGlobal.WriteLine("")
        SWGlobal.Write("...Mais c'est pas en se noyant que l'on apprends à
nager")
        SWGlobal.WriteLine("")
        SWGlobal.WriteLine("")
        SWGlobal.Write("--TLB V3--Michalowski Florian--ESFF 2009--")

        SWGlobal.Close()

    End Sub



    Private  Sub  TextBox11_TextChanged_2(ByVal  sender  As  System.Object,
ByVal e As System.EventArgs) Handles TextBox11.TextChanged

    End Sub

    Private  Sub  TextBox14_TextChanged_1(ByVal  sender  As  System.Object,
ByVal e As System.EventArgs) Handles TextBox14.TextChanged

    End Sub

End Class
```

Module:

```
Module Module1


    Public quit As Integer


    Public n As Object
    Public i As Object



    Public carré As Boolean

    Public rond As Boolean

    Public titane As Boolean
    Public laiton As Boolean
    Public acier As Boolean
    Public cuivre As Boolean
    Public aluminium As Boolean




End Module
```