

PEMROGRAMAN GUI



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Kelas : 2 MID

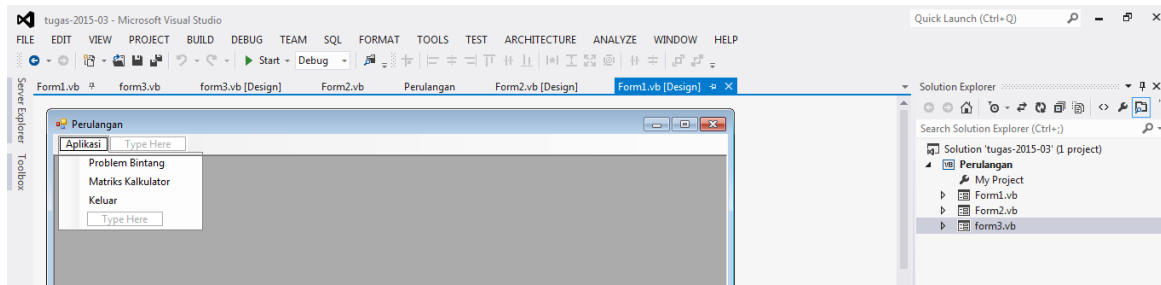
Jurusan Teknologi Informasi

Program Studi Manajemen Informatika

Politeknik Negeri Malang

Dokumentasi Perulangan & FLOWCHART

1. Form utama yang sudah di sediakan



2. Mengisi form parent dengan “MdiParent = Me” untuk mendeklarasikan menu Problem Bintang, Matriks dan Exit.

```
Public Class Form1

    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        End Sub

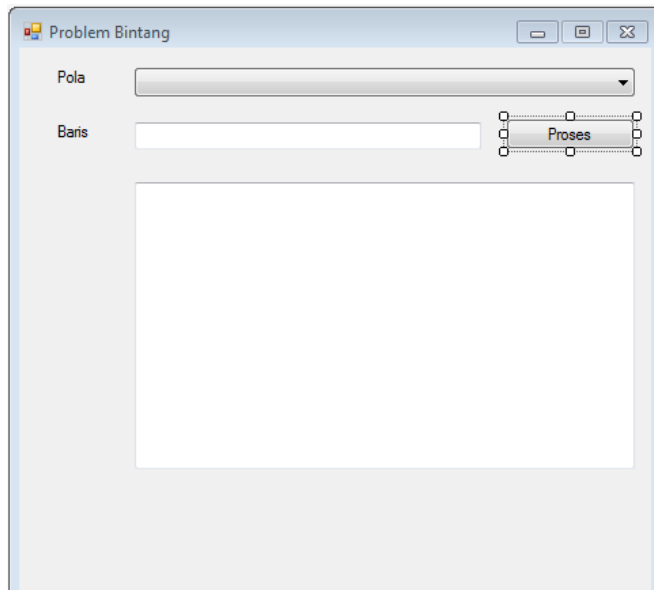
    Private Sub MenuStrip2_ItemClicked(sender As Object, e As ToolStripItemClickedEventArgs) Handles MenuStrip2.ItemClicked
        End Sub

    Private Sub ProblemBintangToolStripMenuItem_Click(sender As Object, e As EventArgs) Handles ProblemBintangToolStripMenuItem.Click
        Form2.MdiParent = Me
        Form2.Show()
    End Sub

    Private Sub MatriksKalkulatorToolStripMenuItem_Click(sender As Object, e As EventArgs) Handles MatriksKalkulatorToolStripMenuItem.Click
        Form3.MdiParent = Me
        Form3.Show()
    End Sub

    Private Sub KeluarToolStripMenuItem_Click(sender As Object, e As EventArgs) Handles KeluarToolStripMenuItem.Click
        Environment.Exit(0)
    End Sub
End Class
```

3. Tampilan dibawah merupakan design untuk Problem Bintang. Dalam pola terdapat comboBox diganti pada properties dengan "DropDownList. Jika design lainnya hanya pilih d tool Box.



4. Tampilan scrip untuk Bintang

```
Form2
Public Class Form2
    Dim hasil As String = ""

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        Try
            Select Case ComboBox1.Text
                Case "Pyramid"
                    pyramid(Convert.ToInt32(TextBox1.Text))
                Case "Hollow Pyramid"
                    hollowPyramid(Convert.ToInt32(TextBox1.Text))
                Case "Inverted Pyramid"
                    InvertedPyramid(Convert.ToInt32(TextBox1.Text))
                Case "Hollow Inverted Pyramid"
                    hollowInvertedPyramid(Convert.ToInt32(TextBox1.Text))
                Case Else
                    TextBox2.Text = "Pilih Pola Terlebih Dahulu"
            End Select
        Catch ex As Exception
            TextBox2.Text = "Masukan Bukan Angka"
        End Try
    End Sub
End Class
```

Tampilan scrip bintang berupa pyramid

```
Private Sub pyramid(batas As Integer)
    Dim batasKolom1 As Integer = batas
    Dim batasKolom2 As Integer = batas
    For baris As Integer = 1 To batas
        For kolom As Integer = 1 To batas * 2 - 1
            If (kolom < batasKolom1 Or kolom > batasKolom2) Then
                Me.hasil &= " "
            Else
                Me.hasil &= "*"
            End If
        Next
        batasKolom1 -= 1
        batasKolom2 += 1
        Me.hasil &= vbCrLf
    Next
    TextBox2.Text = hasil
    hasil = ""
End Sub
```

tampilkan scrip bintang berupa hollowPyramid

```
Private Sub hollowPyramid(batas As Integer)
    Dim batasKolom1 As Integer = batas
    Dim batasKolom2 As Integer = batas
    For baris As Integer = 1 To batas
        For kolom As Integer = 1 To batas * 2 - 1
            If (baris < batas) Then
                If (kolom = batasKolom1 Or kolom = batasKolom2) Then
                    Me.hasil &= "*"
                Else
                    Me.hasil &= " "
                End If
            Else
                Me.hasil &= "*"
            End If
        Next
        batasKolom1 -= 1
        batasKolom2 += 1
        Me.hasil &= vbCrLf
    Next
    TextBox2.Text = hasil
    hasil = ""
End Sub
```

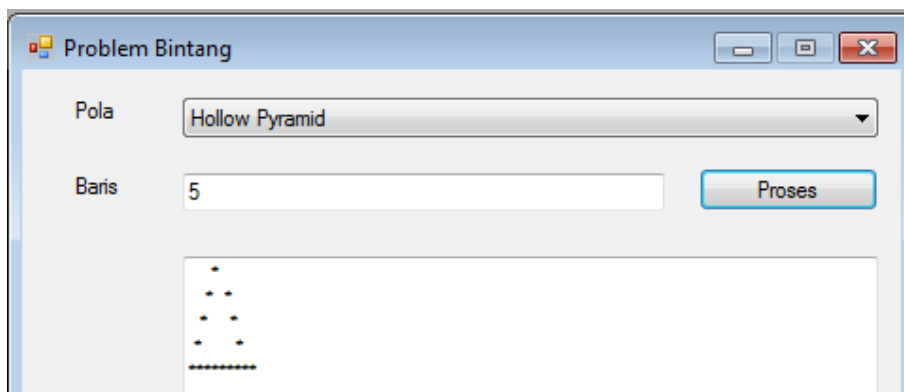
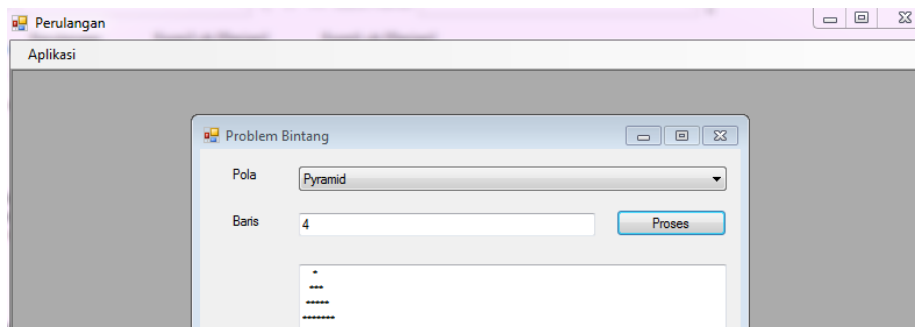
```
Private Sub InvertedPyramid(batas As Integer)
    Dim batasKolom1 As Integer = 0
    Dim batasKolom2 As Integer = batas * 2
    For baris As Integer = 1 To batas
        For kolom As Integer = 1 To batas * 2 - 1
            If (kolom > batasKolom1 And kolom < batasKolom2) Then
                Me.hasil &= "*"
            Else
                Me.hasil &= " "
            End If
        Next
        Me.hasil &= vbCrLf
        batasKolom1 += 1
        batasKolom2 -= 1
    Next
    TextBox2.Text = hasil
    Me.hasil = ""
End Sub
```

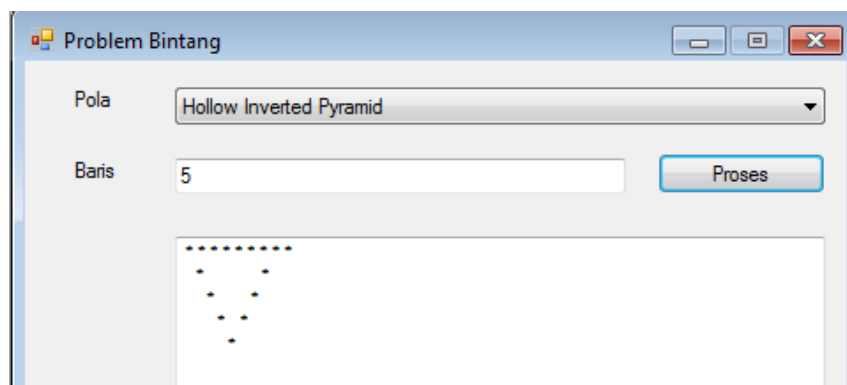
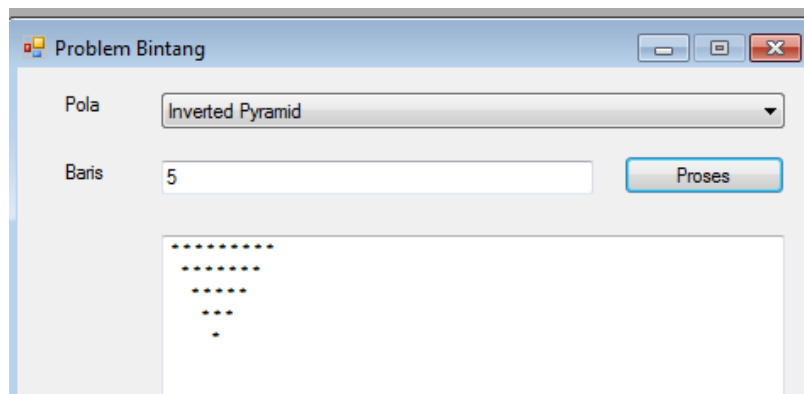
tampilan scrip bintang hollowInvertedPyramid

```
Private Sub hollowInvertedPyramid(batas As Integer)
    Dim batasKolom1 As Integer = 1
    Dim batasKolom2 As Integer = batas * 2 - 1
    For baris As Integer = 1 To batas
        For kolom As Integer = 1 To batas * 2 - 1
            If (baris = 1) Then
                Me.hasil &= "*"
            Else
                If (kolom = batasKolom1 Or kolom = batasKolom2) Then
                    Me.hasil &= "*"
                Else
                    Me.hasil &= " "
                End If
            End If
        Next
        batasKolom1 += 1
        batasKolom2 -= 1
        Me.hasil &= vbCrLf
    Next
    TextBox2.Text = hasil
    Me.hasil = ""
End Sub

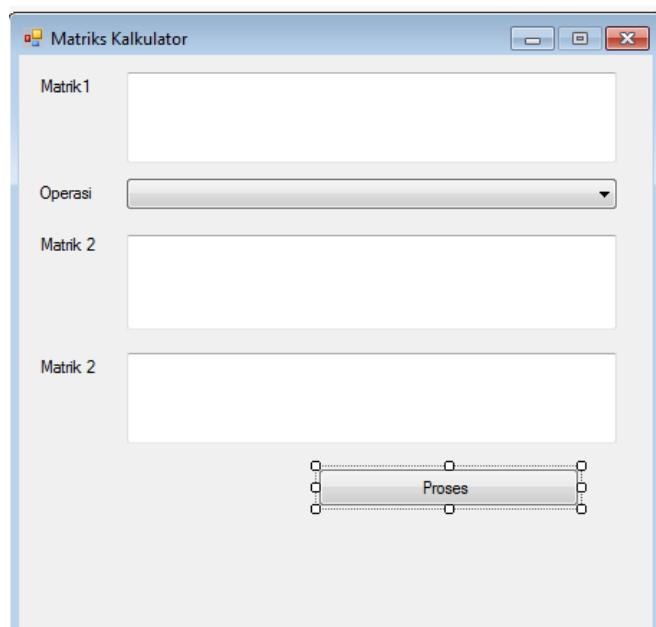
End Class
```

Hasil Bintang dalam semua pola





5. Tampilan menu pada Matriks



tampilan scrip pada menu matriks yang di deklarasikan pada button proses.

```
Form3
Public Class Form3
    Dim cekKolom As Boolean = True

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        Try
            Dim barisMatriks1 As Integer = TextBox1.Lines.Count
            Dim kolomMatriks1 As Integer = TextBox1.Lines.ElementAt(0).Split(" ").Length
            Dim barisMatriks2 As Integer = TextBox1.Lines.Count
            Dim kolomMatriks2 As Integer = TextBox1.Lines.ElementAt(0).Split(" ").Length
            Dim copyMatriks1(barisMatriks1, kolomMatriks1) As Integer
            Dim copyMatriks2(barisMatriks2, kolomMatriks2) As Integer
            cek(barisMatriks1, barisMatriks2, kolomMatriks1, kolomMatriks2)
            copyToArray(barisMatriks1, barisMatriks2, kolomMatriks1, kolomMatriks2, copyMatriks1, copyMatriks2)
            operasi(copyMatriks1, copyMatriks2, barisMatriks1, kolomMatriks2)

            Catch ex As Exception
                MsgBox("Masukan Bukan Angka")
            End Try
        End Sub
    End Sub
```

tampilan scrip yang menggunakan array

```
Private Sub copyToArray(ByVal baris1 As Integer, baris2 As Integer, kolom1 As Integer, kolom2 As Integer, ByRef nilai1(,) As Integer, ByRef nilai2(,) As Integer)
    If (Me.cekKolom) Then
        For baris As Integer = 0 To baris1 - 1
            For kolom As Integer = 0 To kolom1 - 1
                nilai1(baris, kolom) = TextBox1.Lines.ElementAt(baris).Split(" ").ElementAt(kolom)
                nilai2(baris, kolom) = TextBox2.Lines.ElementAt(baris).Split(" ").ElementAt(kolom)
            Next
        Next
    End If
End Sub
```

```
Private Sub cek(ByVal baris1 As Integer, baris2 As Integer, kolom1 As Integer, kolom2 As Integer)
    Dim tmp As Boolean = True
    For baris = 0 To baris1 - 2
        If (TextBox1.Lines.ElementAt(baris).Split(" ").Length <> TextBox1.Lines.ElementAt(baris + 1).Split(" ").Length) Then
            tmp = False
        End If
    Next
    For baris = 0 To baris2 - 2
        If (TextBox2.Lines.ElementAt(baris).Split(" ").Length <> TextBox2.Lines.ElementAt(baris + 1).Split(" ").Length) Then
            tmp = False
        End If
    Next
    If (tmp = False) Then
        Me.cekKolom = False
        Convert.ToInt32(TextBox1.Text)
        Convert.ToInt32(TextBox2.Text)
        MsgBox("Matriks Not Valid")
    ElseIf (baris1 = baris2 And kolom1 = kolom2) Then
        Me.cekKolom = True
    Else
        Me.cekKolom = False
        MsgBox("Baris dan Kolom Semua Matriks harus Sama")
    End If
End Sub
```


tampilan scrip operasi untuk proses tambah dan pengurangan pada menu matriks

```
Private Sub operasi(ByVal Matriks1(,) As Integer, matriks2(,) As Integer, batasBaris As Integer, batasKolom As Integer)
    Dim hasil As String = ""
    If (Me.cekKolom) Then
        Select Case ComboBox1.Text
            Case "Tambah"
                For baris As Integer = 0 To batasBaris - 1
                    For kolom As Integer = 0 To batasBaris - 1
                        hasil &= (Matriks1(baris, kolom) + matriks2(baris, kolom)).ToString & vbTab
                    Next
                    hasil &= vbNewLine
                Next
            Case "Kurang"
                For baris As Integer = 0 To batasBaris - 1
                    For kolom As Integer = 0 To batasKolom - 1
                        hasil &= (Matriks1(baris, kolom) - matriks2(baris, kolom)).ToString & vbTab
                    Next
                    hasil &= vbNewLine
                Next
            Case Else
                MsgBox("Anda Belum Memilih Operasi")
        End Select
        TextBox3.Text = hasil
    End If
End Sub
End Class
```

Hasil Program Matriks

Perulangan

Aplikasi

Matriks Kalkulator

Matrik 1

1234
1234

Operasi

Tambah

Matrik 2

6789
1234

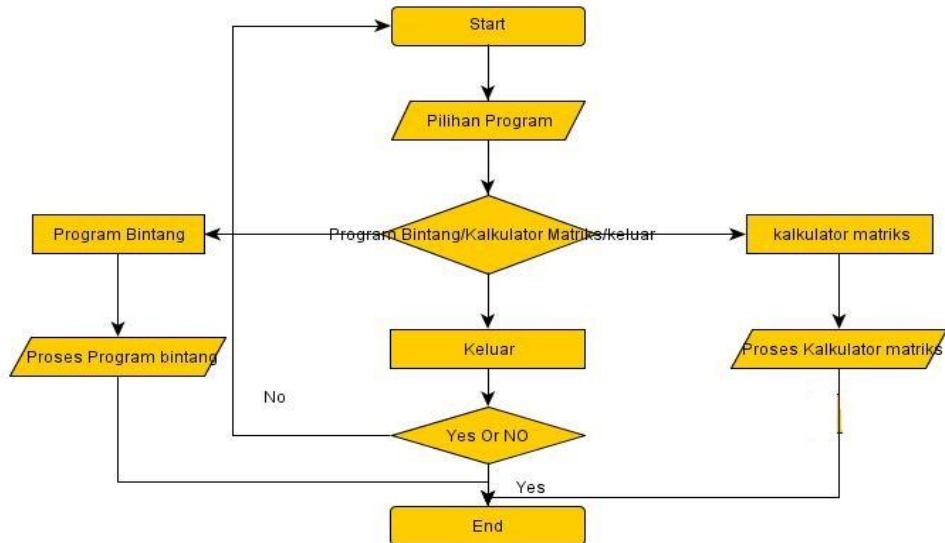
Hasil

8023	0
2468	0

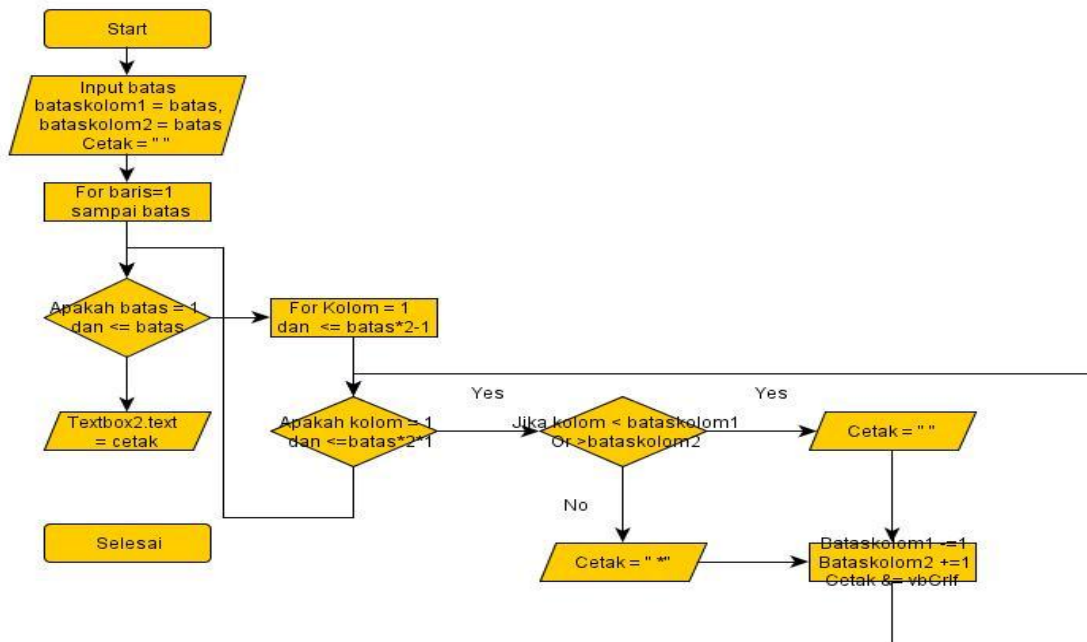
Proses

FLOWCHART

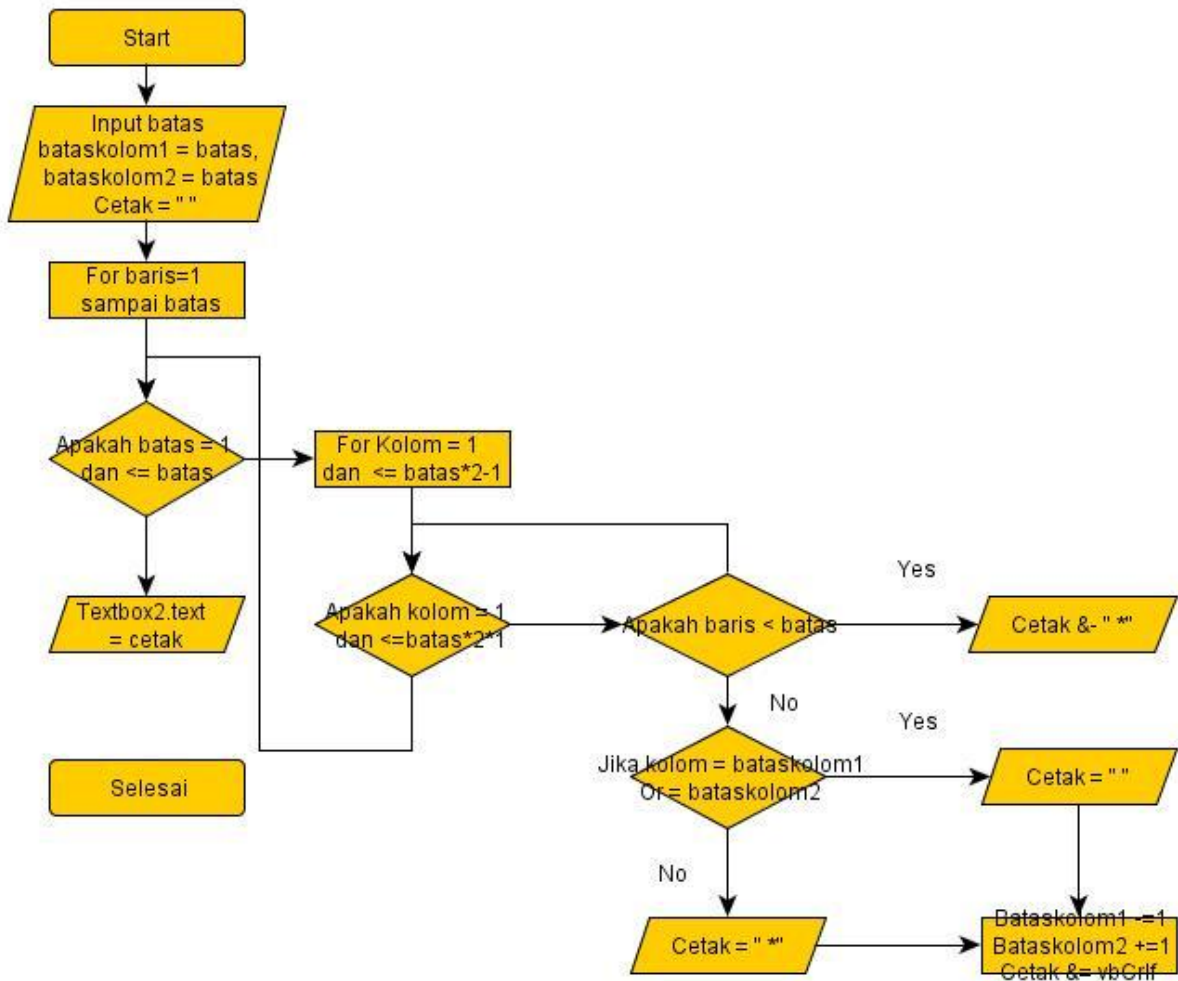
1. Form 1



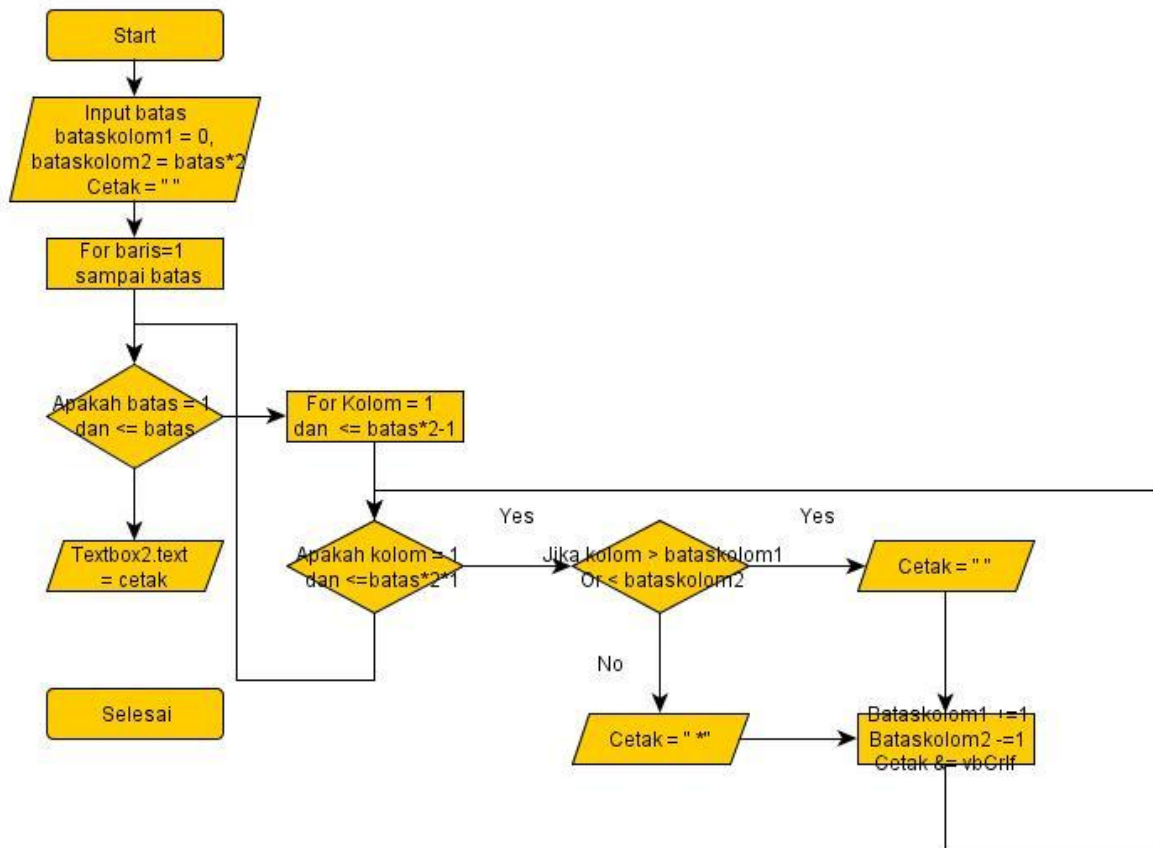
2. Pyramid



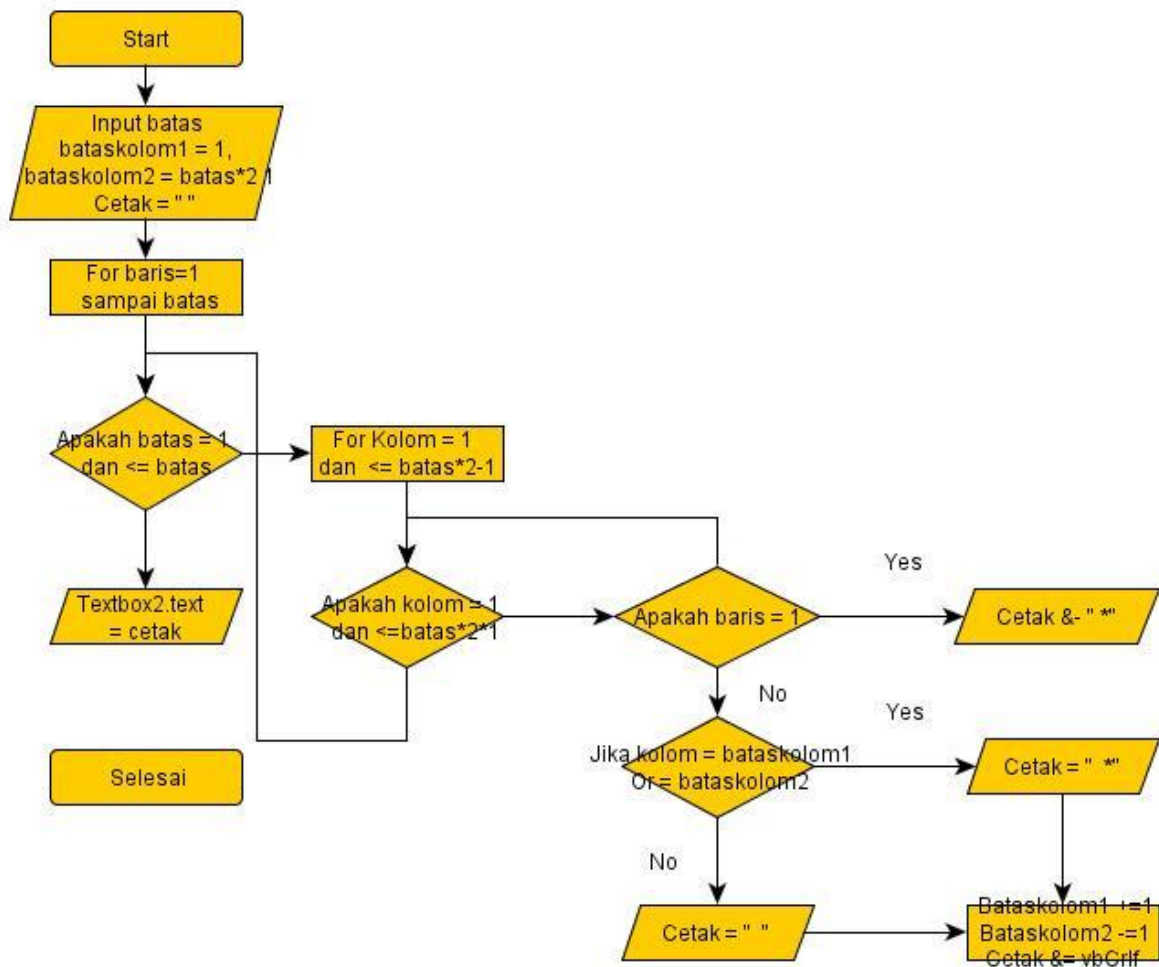
3. Hollow Pyramid



4. Inverted Pyramid



5. Hollow Inverted Pyramid



6. Matriks Kalkulator

