PEMROGRAMAN GUI

Disusun oleh :

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Kelas : 2 MID

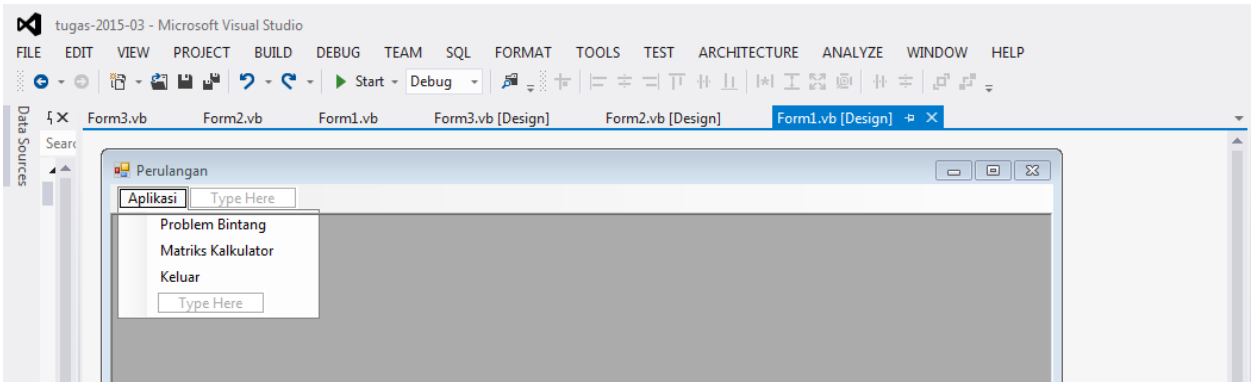
Jurusan Teknologi Informasi

Program Studi Manjemen Informatika

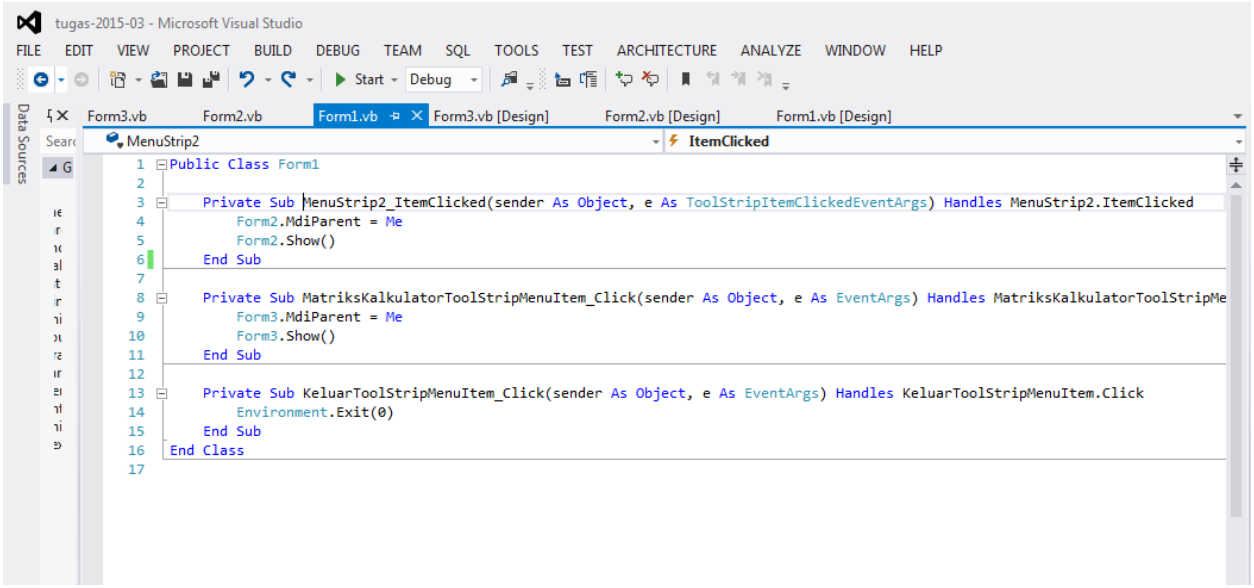
Politeknik Negeri Malang

Dokumentasi Perulangan & FLOWCHART

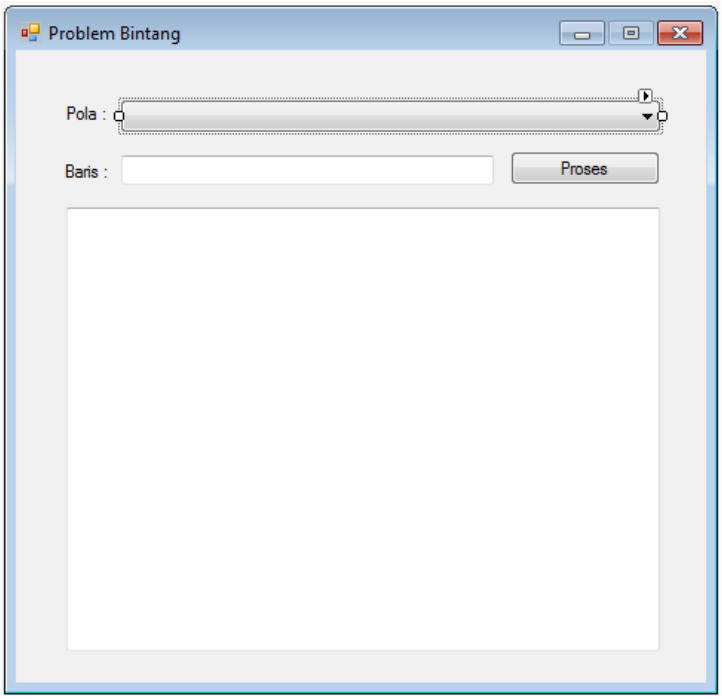
1. Form utama yang sudah di sediakan



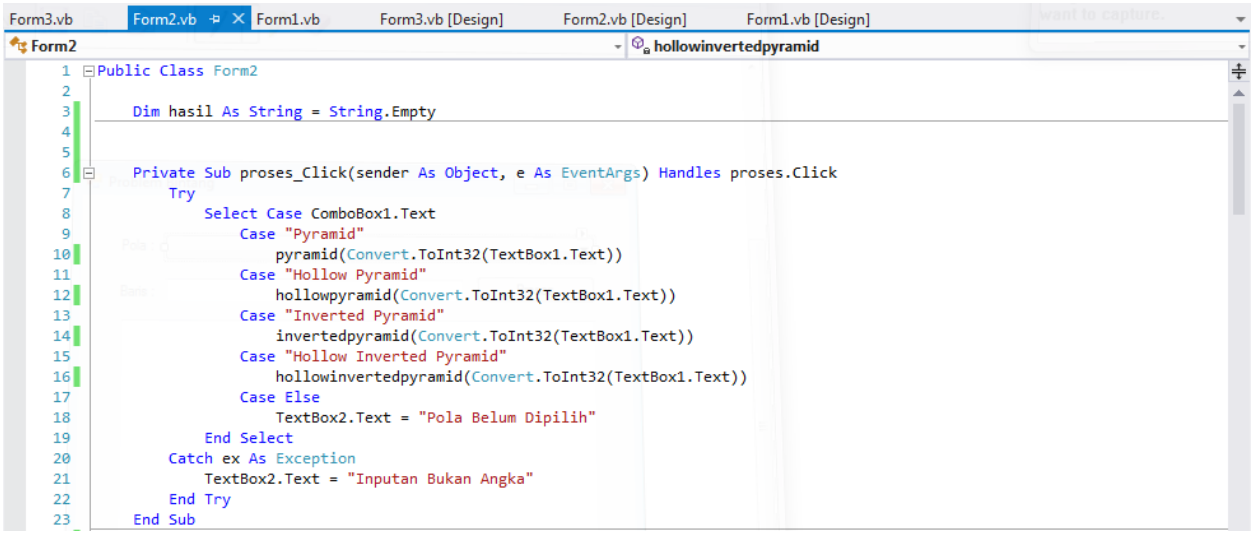
2. Mengisi form parent dengan “MdiParent = Me” untuk mendeklarasikan menu Problem Bintang, Matriks dan Exit.



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

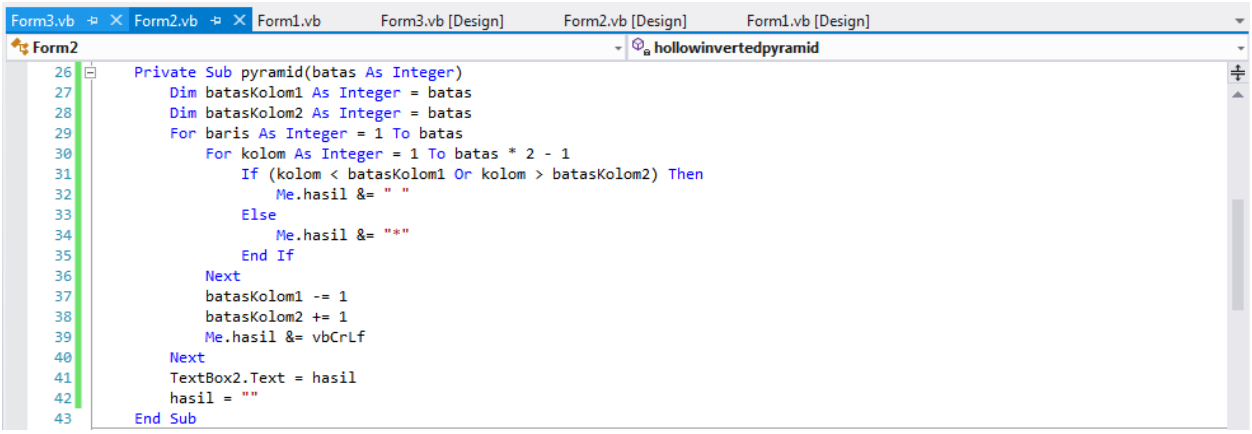


4. Tampilan scrip untuk Bintang



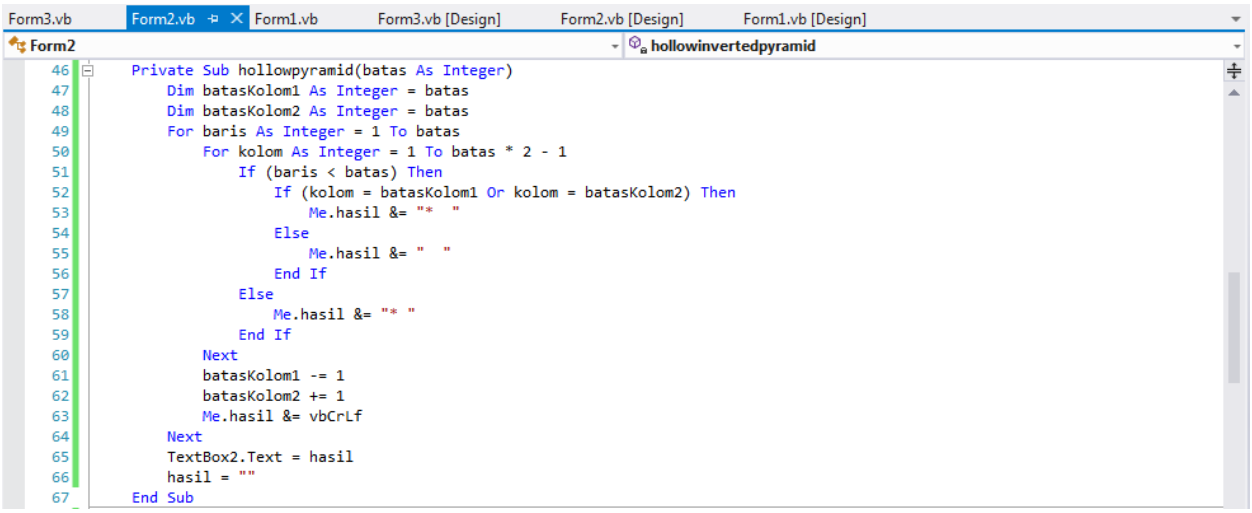
```
Form3.vb | Form2.vb | Form1.vb | Form3.vb [Design] | Form2.vb [Design] | Form1.vb [Design]
Form2 | hollowinvertedpyramid

1  Public Class Form2
2
3      Dim hasil As String = String.Empty
4
5
6      Private Sub proses_Click(sender As Object, e As EventArgs) Handles proses.Click
7          Try
8              Select Case ComboBox1.Text
9                  Case "Pyramid"
10                     pyramid(Convert.ToInt32(TextBox1.Text))
11                 Case "Hollow Pyramid"
12                     hollowpyramid(Convert.ToInt32(TextBox1.Text))
13                 Case "Inverted Pyramid"
14                     invertedpyramid(Convert.ToInt32(TextBox1.Text))
15                 Case "Hollow Inverted Pyramid"
16                     hollowinvertedpyramid(Convert.ToInt32(TextBox1.Text))
17                 Case Else
18                     TextBox2.Text = "Pola Belum Dipilih"
19             End Select
20         Catch ex As Exception
21             TextBox2.Text = "Inputan Bukan Angka"
22         End Try
23     End Sub
```

- Tampilan scrip bintang berupa pyramid



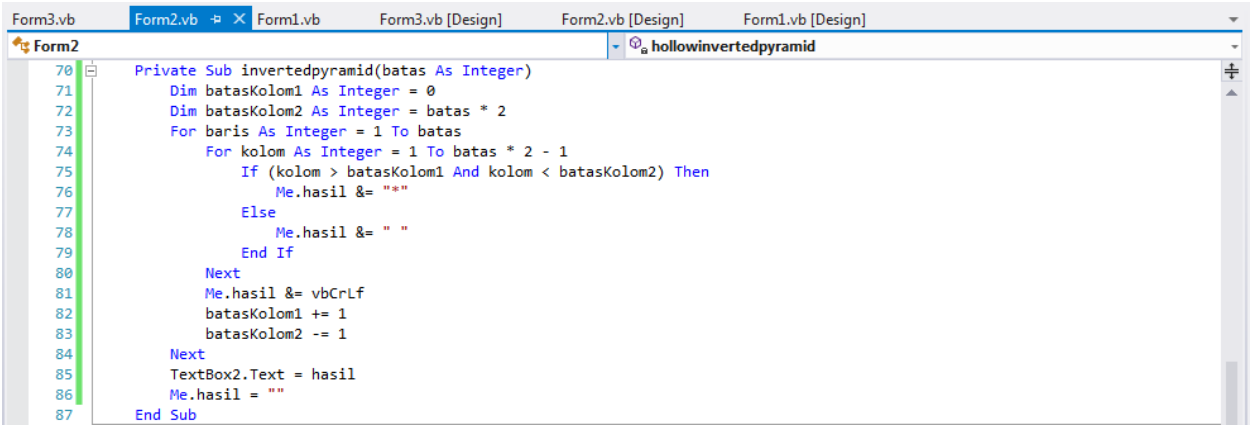

```
26      Private Sub pyramid(batas As Integer)
27          Dim batasKolom1 As Integer = batas
28          Dim batasKolom2 As Integer = batas
29          For baris As Integer = 1 To batas
30              For kolom As Integer = 1 To batas * 2 - 1
31                  If (kolom < batasKolom1 Or kolom > batasKolom2) Then
32                      Me.hasil &= " "
33                  Else
34                      Me.hasil &= "*"
35                  End If
36              Next
37              batasKolom1 -= 1
38              batasKolom2 += 1
39              Me.hasil &= vbCrLf
40          Next
41          TextBox2.Text = hasil
42          hasil = ""
43      End Sub
```

- Tampilkan scrip bintang berupa hollowPyramid




```
46      Private Sub hollowpyramid(batas As Integer)
47          Dim batasKolom1 As Integer = batas
48          Dim batasKolom2 As Integer = batas
49          For baris As Integer = 1 To batas
50              For kolom As Integer = 1 To batas * 2 - 1
51                  If (baris < batas) Then
52                      If (kolom = batasKolom1 Or kolom = batasKolom2) Then
53                          Me.hasil &= "*  "
54                      Else
55                          Me.hasil &= "   "
56                      End If
57                  Else
58                      Me.hasil &= "* "
59                  End If
60              Next
61              batasKolom1 -= 1
62              batasKolom2 += 1
63              Me.hasil &= vbCrLf
64          Next
65          TextBox2.Text = hasil
66          hasil = ""
67      End Sub
```

- Tampilkan scrip bintang berupa Inverted Pyramid

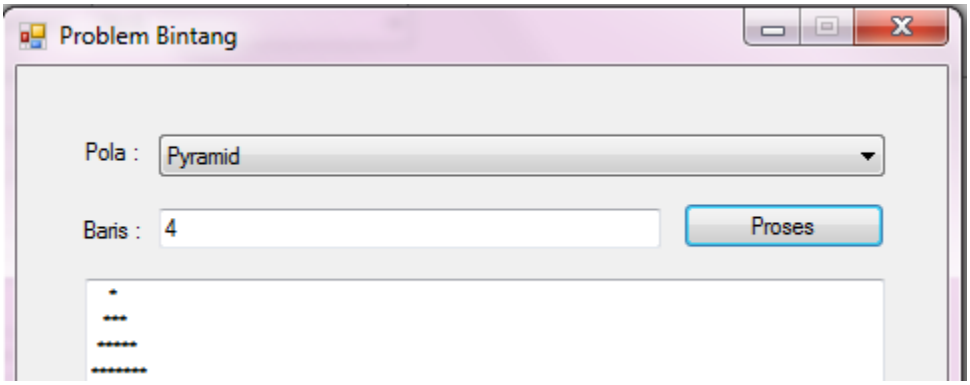


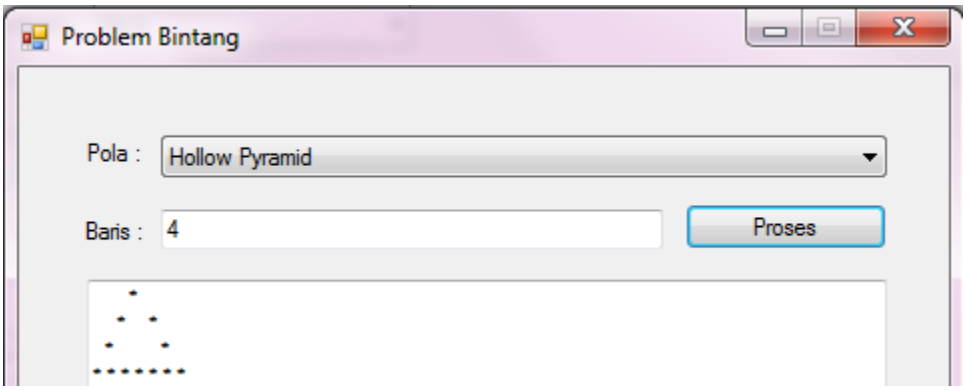

```
70      Private Sub invertedpyramid(batas As Integer)
71          Dim batasKolom1 As Integer = 0
72          Dim batasKolom2 As Integer = batas * 2
73          For baris As Integer = 1 To batas
74              For kolom As Integer = 1 To batas * 2 - 1
75                  If (kolom > batasKolom1 And kolom < batasKolom2) Then
76                      Me.hasil &= "*"
77                  Else
78                      Me.hasil &= " "
79                  End If
80              Next
81              Me.hasil &= vbCrLf
82              batasKolom1 += 1
83              batasKolom2 -= 1
84          Next
85          TextBox2.Text = hasil
86          Me.hasil = ""
87      End Sub
```

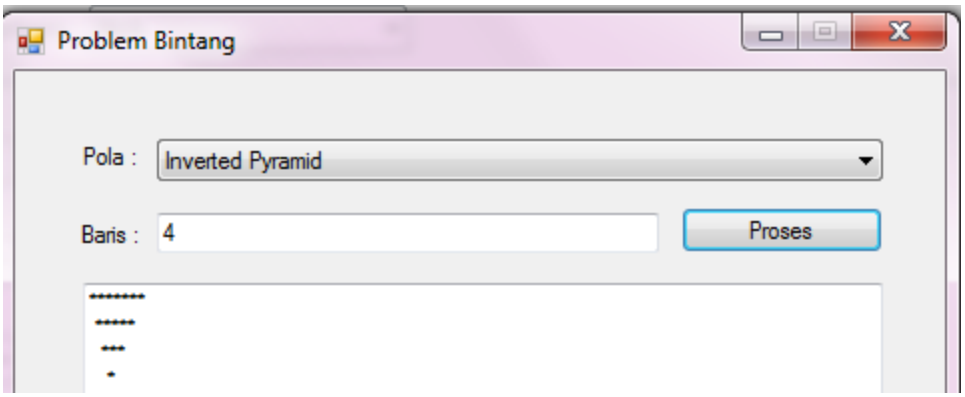
- Tampilan scrip bintang hollowInvertedPyramid

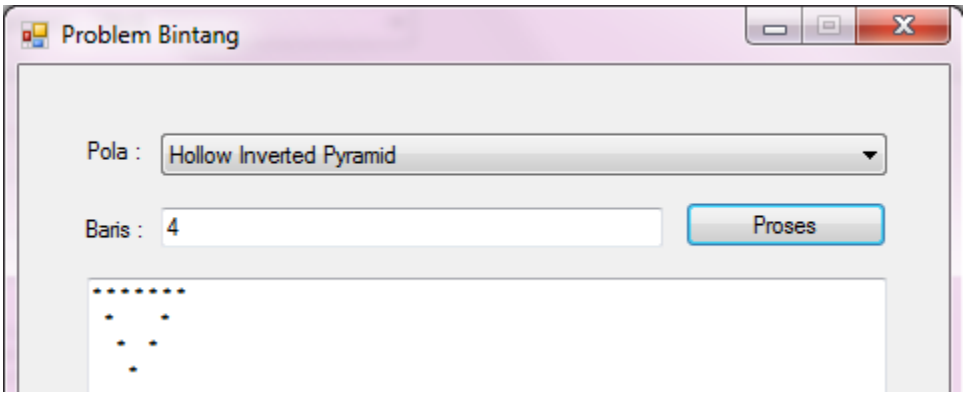
```
Form3.vb | Form2.vb | Form1.vb | Form3.vb [Design] | Form2.vb [Design] | Form1.vb [Design]
Form2 | hollowinvertedpyramid

89
90      Private Sub hollowinvertedpyramid(batas As Integer)
91          Dim batasKolom1 As Integer = 1
92          Dim batasKolom2 As Integer = batas * 2 - 1
93          For baris As Integer = 1 To batas
94              For kolom As Integer = 1 To batas * 2 - 1
95                  If (baris = 1) Then
96                      Me.hasil &= "* "
97                  Else
98                      If (kolom = batasKolom1 Or kolom = batasKolom2) Then
99                          Me.hasil &= "*  "
100                     Else
101                         Me.hasil &= "   "
102                     End If
103                 End If
104             Next
105             batasKolom1 += 1
106             batasKolom2 -= 1
107             Me.hasil &= vbCrLf
108         Next
109         TextBox2.Text = hasil
110         Me.hasil = ""
111     End Sub
112
113 End Class
```

5. Hasil Bintang dalam semua pola

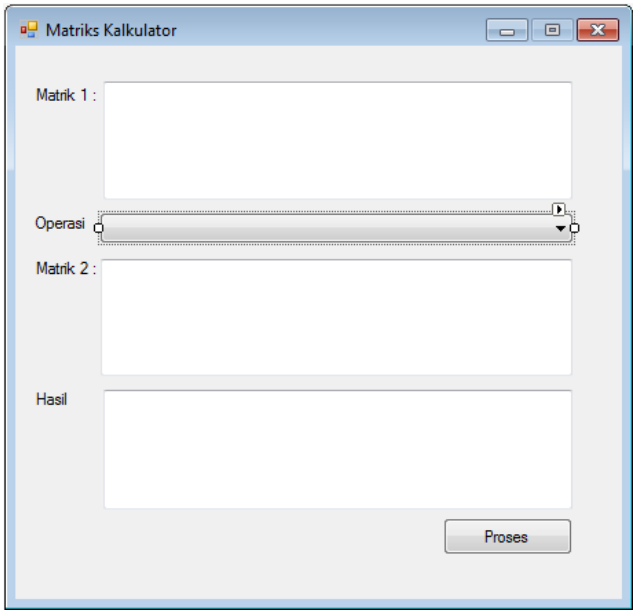








6. Tampilan menu pada Matriks



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

```
Form3                                                    copyToArray
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
```

tampilan scrip yang menggunakan array

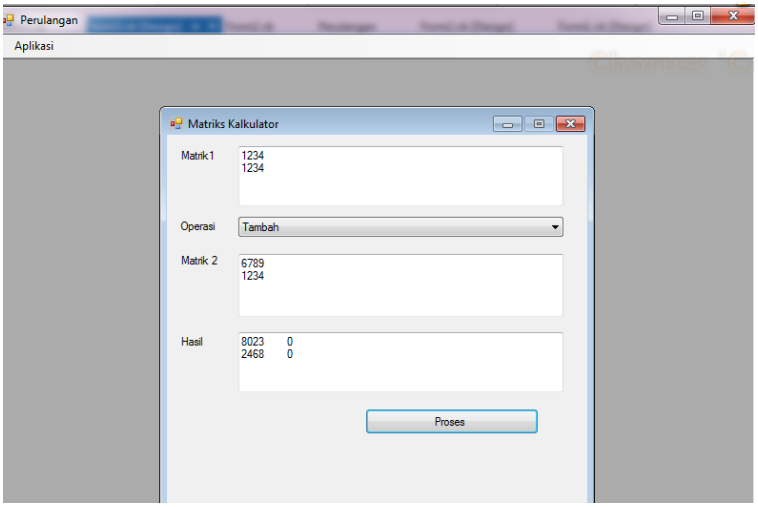
```
    Private Sub copyToArray(ByVal baris1 As Integer, baris2 As Integer, kolom1 As Integer, kolom2 As Integer, ByRef nilai(,) As Integer, ByRef nilai2(,) As Integer)
        If (Me.cekKolom) Then
            For baris As Integer = 0 To baris1 - 1
                For kolom As Integer = 0 To kolom1 - 1
                    nilai(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

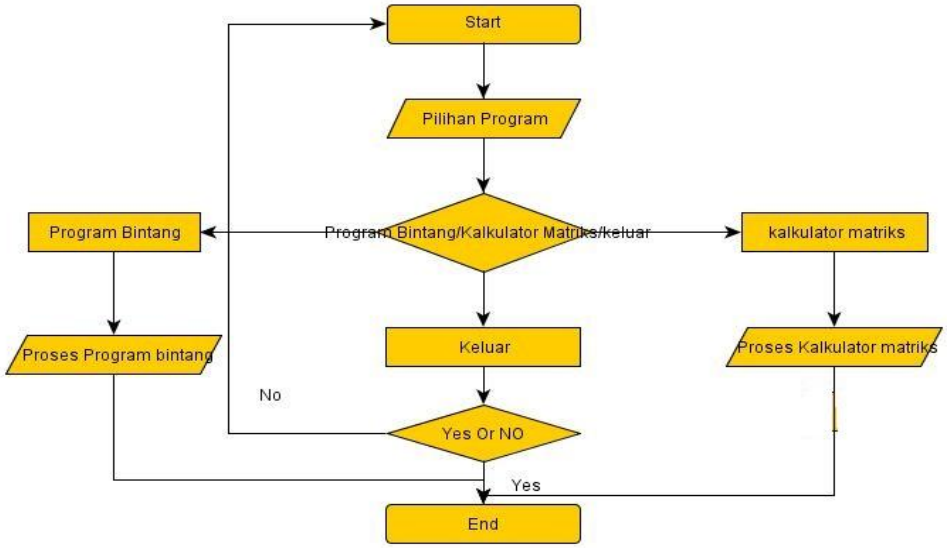
```
    Private Sub operasi(ByVal Matriks1(,) As Integer, matriks2(,) As Integer, batasBaris As Integer, batasKolom As Integer)
        Dim hasil As String = ""
        If (Me.cekKolom) Then
            Select Case ComboBox1.Text
                Case "Tambah"
                    For baris As Integer = 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

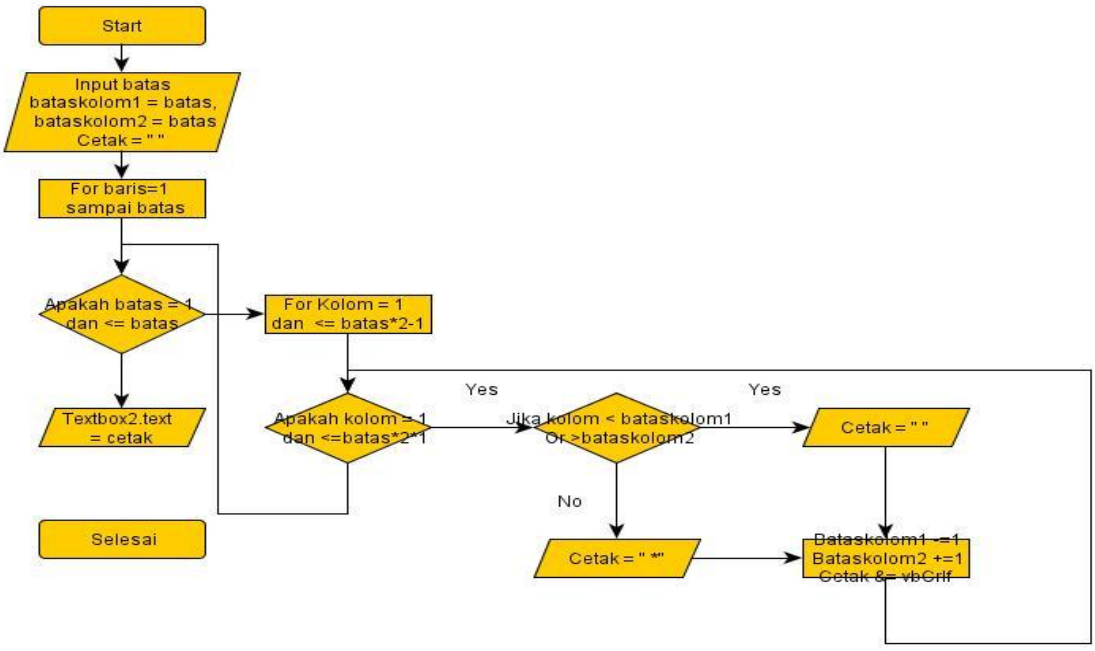


FLOWCHART

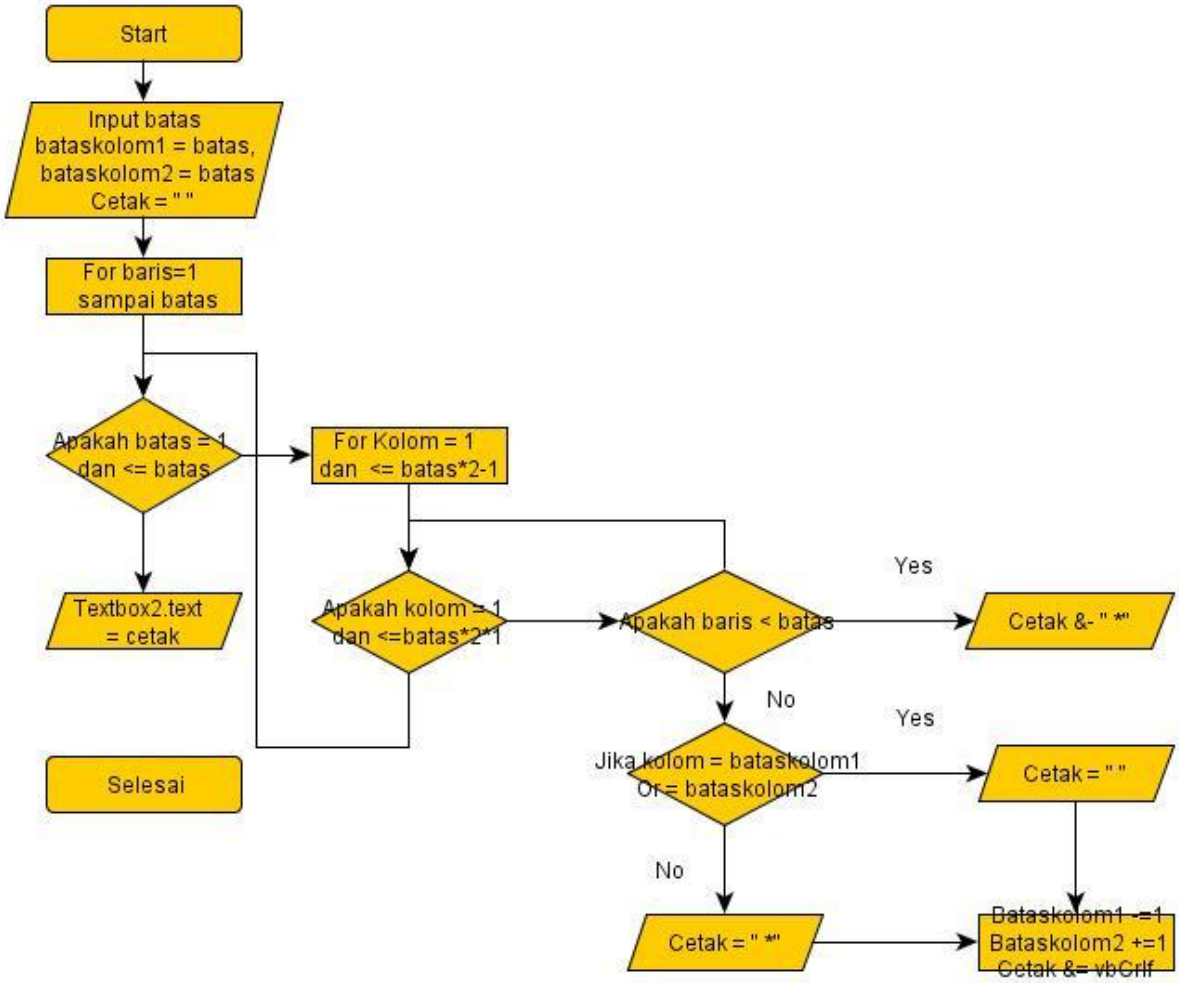
1. Form 1



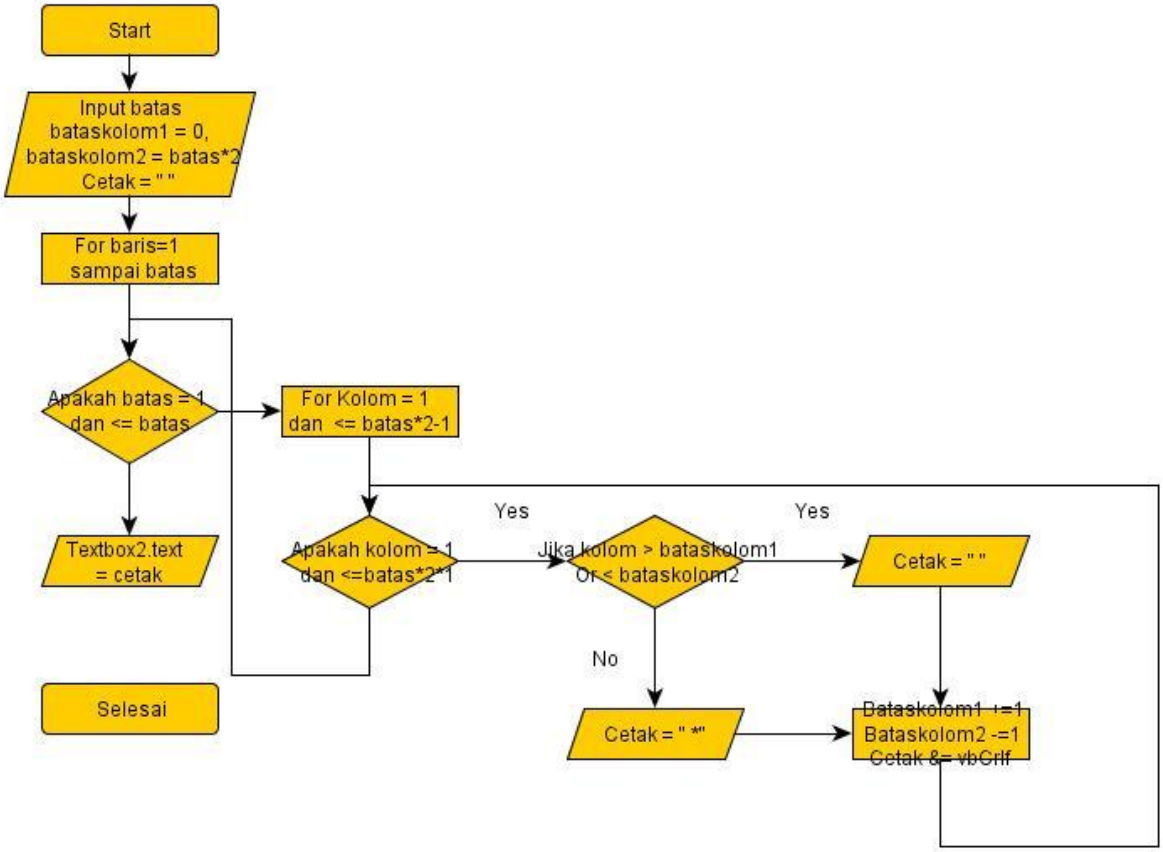
2. Pyramid



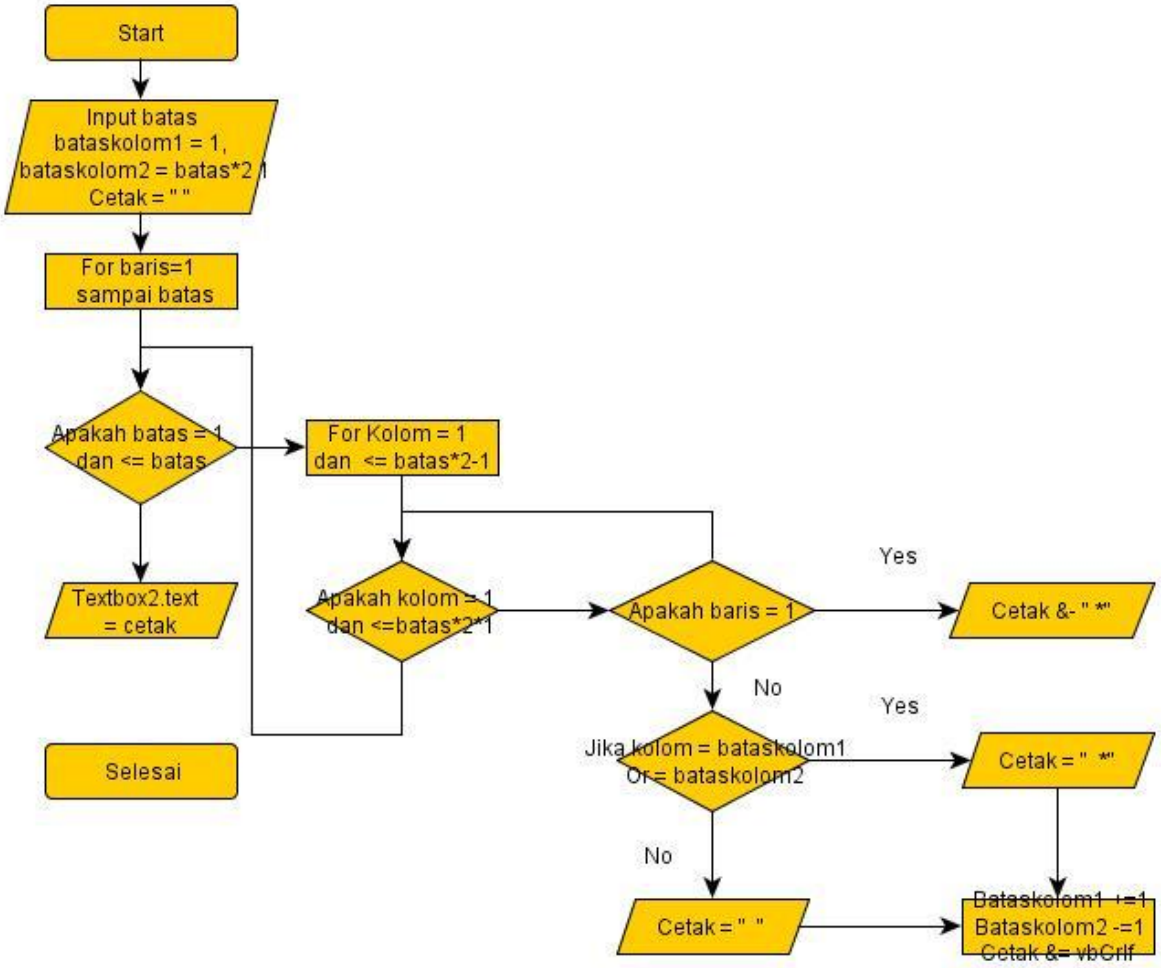
3. Hollow Pyramid



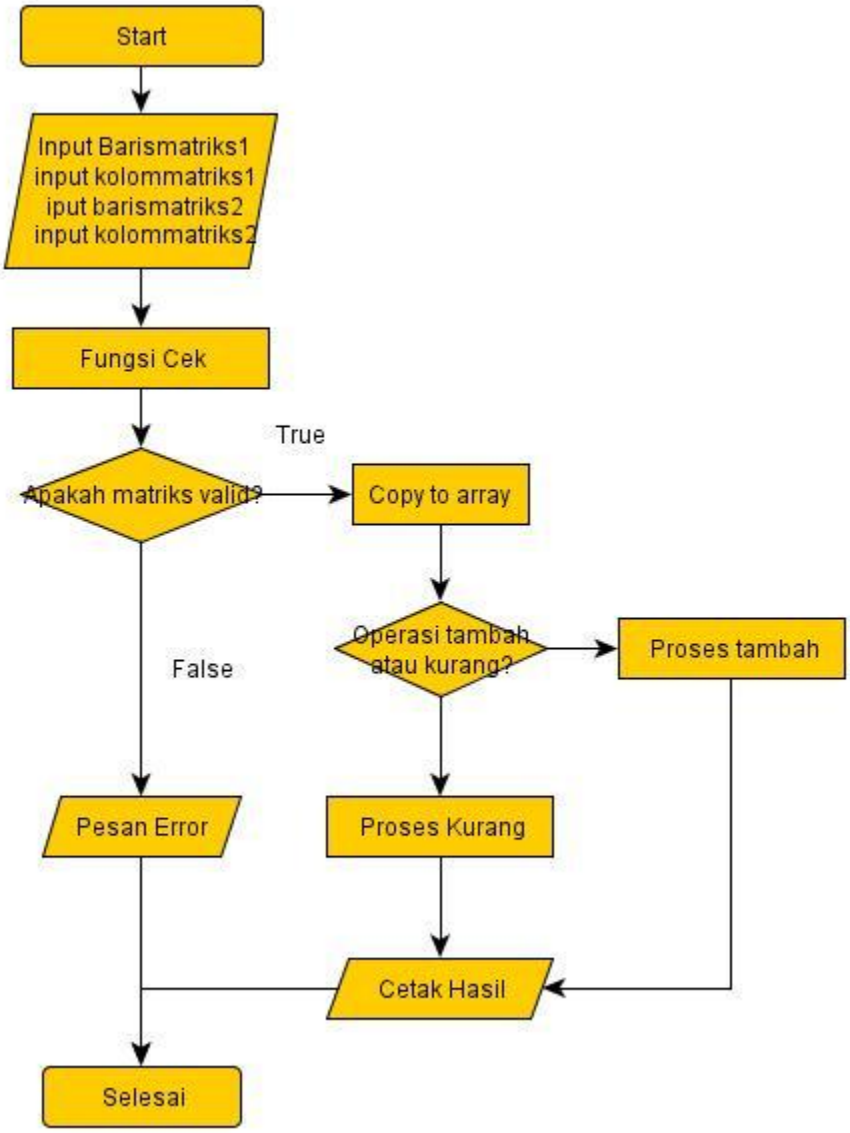
4. Inverted Pyramid



5. Hollow Inverted Pyramid



6. Matriks Kalkulator


Start
Input Barismatriks1
input kolommatriks1
iput barismatriks2
input kolommatriks2
Fungsi Cek
True
Apakah matriks valid?
Copy to array
Operasi tambah atau kurang?
Proses tambah
False
Pesan Error
Proses Kurang
Cetak Hasil
Selesai