LAPORAN PEMROGRAMAN BASIS DATA

JOB 7

“Aplikasi Transaksi Kehadiran, Beasiswa, dan Prestasi”

Disusun oleh :

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PROGRAM STUDI TEKNIK INFORMATIKA

JURUSAN TEKNIK ELEKTRO

POLITEKNIK NEGERI SEMARANG

2015

I. Tujuan Instruksional Khusus

Setelah menyelesaikan praktikum ini mahasiswa dapat :

1. Memahami dan membuat aplikasi transaksi untuk Kehadiran, Beasiswa, dan Prestasi.
2. Memahami penggunaan auto fill dalam form input dan mempraktikkannya dalam aplikasi.
3. Memahami autosuggestion pada form input serta mengaplikasikannya dalam program.
4. Melalukan koneksi database dengan pangambilan data dari database ke ComboBox atau TextBox.

II. Dasar Teori

A. Query Join

Inner Join

Inner Join adalah perintah untuk operasi penggabungan yang paling umum digunakan dan biasanya dikatakan sebagai default join-type. Inner Join hanya menampilkan data yang benar-benar terdapat di dalam tabel yang saling dihubungkan.

```
SELECT CompanyName, OrderID, OrderDate
FROM Customers
INNER JOIN Orders ON Customers.CustomerID =
Orders.CustomerID
```

Left Join

```
SELECT Customers.CustomerID,
Customers.CompanyName,
COUNT(Orders.OrderID) AS Frekuensi
FROM Customers
LEFT JOIN Orders ON Customers.CustomerID =
Orders.CustomerID
GROUP BY Customers.CustomerID,
Customers.CompanyName
ORDER BY COUNT(Orders.OrderID)
```

Right Join

Perintah RIGHT JOIN merupakan kebalikan dari LEFT JOIN, yaitu menampilkan semua isi tabel yang disebutkan kedua dalam perintah join. Dalam contoh di atas apabila LEFT JOIN diganti RIGHT JOIN maka semua isi tabel Orders akan ditampilkan semuanya.

```
SELECT Customers.CustomerID,
Customers.CompanyName,
COUNT(Orders.OrderID) AS Frekuensi
FROM Customers
RIGHT JOIN Orders ON Customers.CustomerID =
Orders.CustomerID
GROUP BY Customers.CustomerID,
Customers.CompanyName
ORDER BY COUNT(Orders.OrderID)
```

Full Join

Jenis join terakhir adalah FULL JOIN yang menampilkan semua data dari dua tabel yang dihubungkan meskipun terdapat data yang tidak memiliki pasangan di tabel lainnya.

B. Konsep Perulangan

Perulangan adalah Struktur loop memperbolehkan anda untuk melaksanakan sekelompok baris lebih dari satu kali. Ada beberapa jenis perulangan pada pemograman diantaranya pada jenis pemorgraman terstruktur kita mengenal jenis perulangan diantaranya do-while , while and for.

1. While

Perulangan *while* adalah jenis perulangan yang dilakukan pengecekan kondisi terlebih dahulu sebelum dilakukan perulangan. Jika kondisi bernilai **benar** akan terjadi perulangan jika **salah** maka akan diloncati atau tidak dieksekusi.

```
While (Kondisi)
{ Statement }
Wend ‘While-wend merupakan sintaks perulangan while pada VB’
```

2. Do-While

Perulangan *do-while* adalah jenis perulangan yang sama dengan while tetapi pengecekan while terletak diakhir blok statement. Perulangan akan terjadi minimal 1x terlebih dahulu baru akan dilakukan pengecekan kondisi. Jika kondisi bernilai **benar** perulangan masih tetap dilakukan dan jika **salah** akan berhenti.

```
Do
{ Statement }
```

```
Loop While (Kondisi)
```

3. **For**

   Perulangan *for* adalah jenis perulangan yang lebih baik dan simple dan sering digunakan karena memiliki counter yang mana akan dimulai pada nilai kondisi awal sampai pada bertambah satu atau berkurang satu.

```
For (Counter = Nilai Awal to End Step Pertambahan/Pengurangan)
{ Pernyataan }
Next
```

C. Aplikasi Konsep perulangan pada Alur Transaksi Kelas

Konsep Perulangan untuk :

- **INSERT**

```
For i=0 To Akhir dari Baris Tabel data kelas
(Statement berupa Insert Query)
Next
```

- **UPDATE**

```
For i=0 To Akhir dari Baris Tabel data kelas
(Statement berupa Update Query)
Next
```

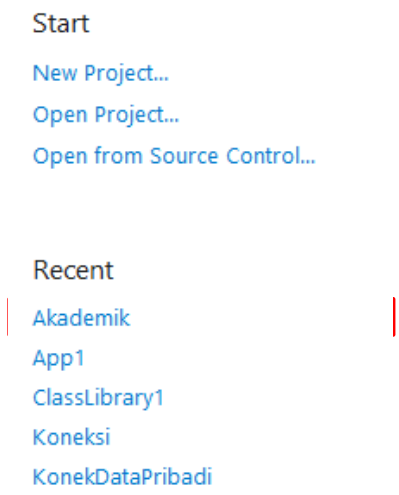
III. Alat dan Bahan

1. PC Processor minimal Pentium IV, RAM minimal 512 MB
2. Microsoft Visual Studio 2013 Professional atau versi di bawahnya
3. Microsoft Access 2013

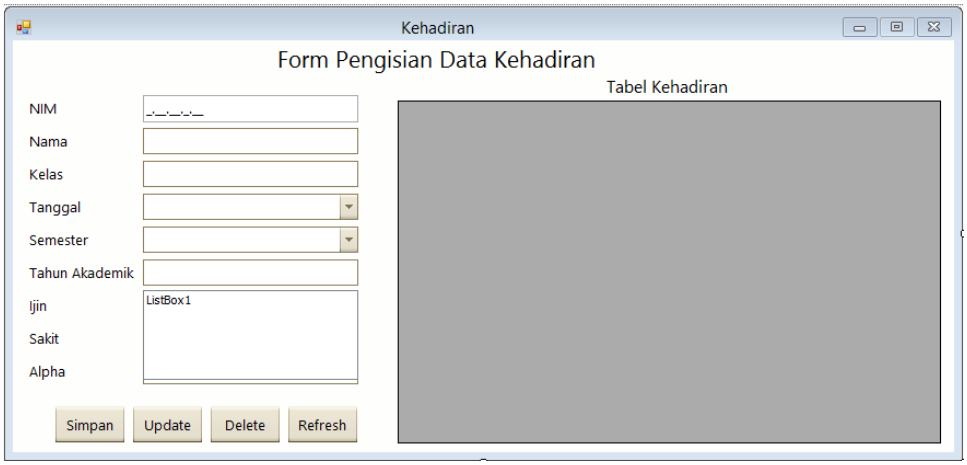
IV. Langkah Kerja/Percobaan\

1. Langkah pertama adalah membuka aplikasi Visual Studio 2013

2. Buka project Akademik dengan klik pada recent project atau membuka direktori akademik dengan open project.



3. Desain Form6 atau form transaksi kehadiran seperti berikut :



4. Langkah selanjutnya adalah memberikan kode program terhadap desain yang sudah dibuat. Ketikkan kode program berikut.

```
Imports System.Data
Imports System.Data.OleDb
Imports System.IO
Public Class Kehadiran
    Dim cnnOLEDB As New OleDbConnection
    Dim cmdOLEDB As New OleDbCommand
    Dim cmdInsert As New OleDbCommand
    Dim cmdUpdate As New OleDbCommand
    Dim cmdDelete As New OleDbCommand
    Dim strConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source="
& _
        System.Environment.CurrentDirectory & "\Akademik.accdb"
    Public ADP As OleDbDataAdapter
    Public DS As New DataSet
    Private Sub Kehadiran_Click(sender As Object, e As EventArgs) Handles Me.Click
        ListBox1.Visible = False
    End Sub
    Private Sub Kehadiran_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        cnnOLEDB.ConnectionString = strConnectionString
        cnnOLEDB.Open()
        TampilData()
        ListBox1.Visible = False
```

```
        ButtonEnable()
    End Sub
    Sub ButtonEnable()
        BtnSimpan.Enabled = True
        BtnUpdate.Enabled = False
        BtnDelete.Enabled = False
        TxtNIM.Enabled = True
    End Sub
    Sub ButtonDisable()
        BtnSimpan.Enabled = False
        BtnUpdate.Enabled = True
        BtnDelete.Enabled = True
        TxtNIM.Enabled = False
    End Sub
    Sub TampilData()
        ADP = New OleDbDataAdapter("SELECT * FROM Kehadiran ORDER BY NIM",
cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Tabel1")
        DataGridView1.DataSource = DS.Tables("Tabel1")
    End Sub
    Sub IsiList()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa WHERE Nama_Mhs
LIKE '" & TxtNama.Text & "%' ORDER BY NIM "
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "List")
        ListBox1.Items.Clear()
        For i = 0 To DS.Tables("List").Rows.Count - 1
            ListBox1.Items.Add(DS.Tables("List").Rows(i).Item("Nama_Mhs").ToString)
        Next
    End Sub
    Sub IsiNim()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa  WHERE NIM = '" &
TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "NIM")
        For i = 0 To DS.Tables("NIM").Rows.Count - 1
            TxtNama.Text = (DS.Tables("NIM").Rows(i).Item("Nama_Mhs").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub IsiKelas()
        Dim query As String
        query = "SELECT Kelas FROM Kelas  WHERE NIM = '" & TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Kelas")
        TxtKelas.Text = ""
        For i = 0 To DS.Tables("Kelas").Rows.Count - 1
            TxtKelas.Text = (DS.Tables("Kelas").Rows(i).Item("Kelas").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub Bersih()
        TxtNIM.Text = ""
        TxtNama.Text = ""
        TxtKelas.Text = ""
        Tgl.Text = ""
        CmbSemester.Text = ""
```

```
        TxtTA.Text = ""
        TxtIjin.Text = ""
        TxtSakit.Text = ""
        TxtAlpha.Text = ""
    End Sub
    Private Sub TxtNama_TextChanged(sender As Object, e As EventArgs) Handles
TxtNama.TextChanged
        ListBox1.Location = New Point(TxtNama.Location.X, TxtNama.Location.Y +
20)
        ListBox1.BringToFront()
        ListBox1.Visible = True
        IsiList()
    End Sub
    Private Sub ListBox1_SelectedIndexChanged(sender As Object, e As EventArgs)
Handles ListBox1.SelectedIndexChanged
        TxtNama.Text = ListBox1.SelectedItem
        ListBox1.Visible = False
    End Sub
    Private Sub BtnSimpan_Click(sender As Object, e As EventArgs) Handles
BtnSimpan.Click
        If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
Tgl.Text <> "" And CmbSemester.Text <> "" _
            And TxtTA.Text <> "" And TxtIjin.Text <> "" And TxtSakit.Text <> "" And
TxtSakit.Text <> "" Then
            Try
                cmdInsert.CommandText = "INSERT INTO Kehadiran " & _
                "(NIM, Semester, Tahun_Akademik, Tanggal, Ijin, Sakit, Alpa)" & _
                "VALUES(@NIM, @Semester, @TA, @Tgl, @Ijin, @Sakit, @Alpa)"

                cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
                cmdInsert.Parameters.AddWithValue("@Semester",
Me.CmbSemester.SelectedText)
                cmdInsert.Parameters.AddWithValue("@TA", Me.TxtTA.Text)
                cmdInsert.Parameters.AddWithValue("@Tgl", Me.Tgl.Text)
                cmdInsert.Parameters.AddWithValue("@Ijin", Me.TxtIjin.Text)
                cmdInsert.Parameters.AddWithValue("@Sakit", Me.TxtSakit.Text)
                cmdInsert.Parameters.AddWithValue("@Alpa", Me.TxtAlpha.Text)

                cmdInsert.CommandType = CommandType.Text
                cmdInsert.Connection = cnnOLEDB
                cmdInsert.ExecuteNonQuery()
                MsgBox("Record inserted")
                TampilData()
            Catch ex As Exception
                MsgBox(ex.ToString)
            End Try
        Else
            MsgBox("Masukkan data secara lengkap")
        End If
    End Sub
    Private Sub TxtNIM_TextChanged(sender As Object, e As EventArgs) Handles
TxtNIM.TextChanged
        If TxtNIM.Text.Length() = 12 Then
            IsiNim()
            IsiKelas()
        End If
    End Sub

    Private Sub BtnUpdate_Click(sender As Object, e As EventArgs) Handles
BtnUpdate.Click
        If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
Tgl.Text <> "" And CmbSemester.Text <> "" _
            And TxtTA.Text <> "" And TxtIjin.Text <> "" And TxtSakit.Text <> "" And
```

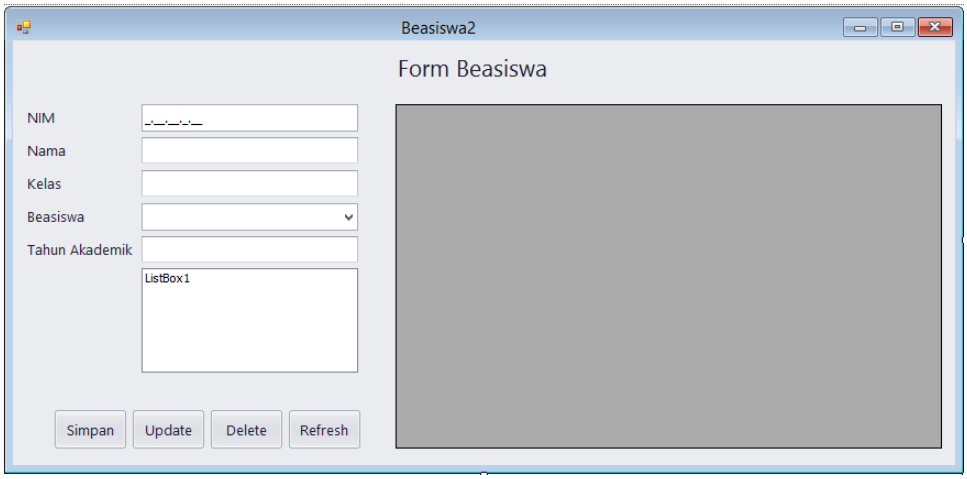
```
TxtSakit.Text <> "" Then
            Try
                cmdInsert.CommandText = "UPDATE Kehadiran SET" & _
                "NIM=@NIM, Semester=@Semester, Tahun_Akademik=@TA,
Tanggal=@Tgl, Ijin=@Ijin, Sakit=@Sakit, Alpa=@Alpa WHERE NIM=@NIM"

                cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
                cmdInsert.Parameters.AddWithValue("@Semester",
Me.CmbSemester.SelectedText)
                cmdInsert.Parameters.AddWithValue("@TA", Me.TxtTA.Text)
                cmdInsert.Parameters.AddWithValue("@Tgl", Me.Tgl.Text)
                cmdInsert.Parameters.AddWithValue("@Ijin", Me.TxtIjin.Text)
                cmdInsert.Parameters.AddWithValue("@Sakit", Me.TxtSakit.Text)
                cmdInsert.Parameters.AddWithValue("@Alpa", Me.TxtAlpha.Text)

                cmdInsert.CommandType = CommandType.Text
                cmdInsert.Connection = cnnOLEDB
                cmdInsert.ExecuteNonQuery()
                MsgBox("Record Updated")
                TampilData()
            Catch ex As Exception
                MsgBox(ex.ToString)
            End Try
            MsgBox("Masukkan data secara lengkap")
        End If
    End Sub

    Private Sub DataGridView1_CellContentClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DataGridView1.CellContentClick
        GetData(e)
        ButtonDisable()
    End Sub

    Private Sub DataGridView1_CellContextMenuStripChanged(sender As Object, e
As DataGridViewCellEventArgs) Handles
DataGridView1.CellContextMenuStripChanged
        GetData(e)
        ButtonDisable()
    End Sub
    Sub GetData(e)
        Dim NIM As Object = DataGridView1.Rows(e.RowIndex).Cells(0).Value
        Dim Semester As Object = DataGridView1.Rows(e.RowIndex).Cells(1).Value
        Dim TA As Object = DataGridView1.Rows(e.RowIndex).Cells(2).Value
        Dim Tanggal As Object = DataGridView1.Rows(e.RowIndex).Cells(3).Value
        Dim Ijin As Object = DataGridView1.Rows(e.RowIndex).Cells(4).Value
        Dim Sakit As Object = DataGridView1.Rows(e.RowIndex).Cells(5).Value
        Dim Alpa As Object = DataGridView1.Rows(e.RowIndex).Cells(6).Value

        TxtNIM.Text = CType(NIM, String)
        CmbSemester.Text = CType(Semester, String)
        TxtTA.Text = CType(TA, String)
        Tgl.Text = CType(Tanggal, String)
        TxtIjin.Text = CType(Ijin, String)
        TxtSakit.Text = CType(Sakit, String)
        TxtAlpha.Text = CType(Alpa, String)
    End Sub

    Private Sub BtnRefresh_Click(sender As Object, e As EventArgs) Handles
BtnRefresh.Click
        Bersih()
        ButtonEnable()
        ListBox1.Visible = False
    End Sub
```

```
    Private Sub BtnDelete_Click(sender As Object, e As EventArgs) Handles
BtnDelete.Click
        Try
            cmdDelete.CommandText = "DELETE FROM Kehadiran WHERE NIM=@NIM"
            cmdDelete.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
            cmdDelete.CommandType = CommandType.Text
            cmdDelete.Connection = cnnOLEDB
            cmdDelete.ExecuteNonQuery()
            MsgBox("Record Deleted")
        Catch ex As Exception
            MsgBox(ex.ToString)
        End Try
        cmdDelete.Dispose()
        TampilData()
        Bersih()
    End Sub
End Class
```

Keterangan

- ListBox1 digunakan sebagai autosuggestion yang akan menampilkan nama pada database pada saat TxtNama di ketik.

5. Desain Kembali Form baru atau form transaksi Beasiswa seperti berikut :



6. Langkah selanjutnya adalah memberikan kode program terhadap desain yang sudah dibuat. Ketikkan kode program berikut.

```
Imports System.Data
Imports System.Data.OleDb
Imports System.IO
Public Class Beasiswa2
    Dim cnnOLEDB As New OleDbConnection
    Dim cmdOLEDB As New OleDbCommand
    Dim cmdInsert As New OleDbCommand
    Dim cmdUpdate As New OleDbCommand
    Dim cmdDelete As New OleDbCommand
    Dim strConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source="
& _
        System.Environment.CurrentDirectory & "\Akademik.accdb"
    Public ADP As OleDbDataAdapter
    Public DS As New DataSet
```

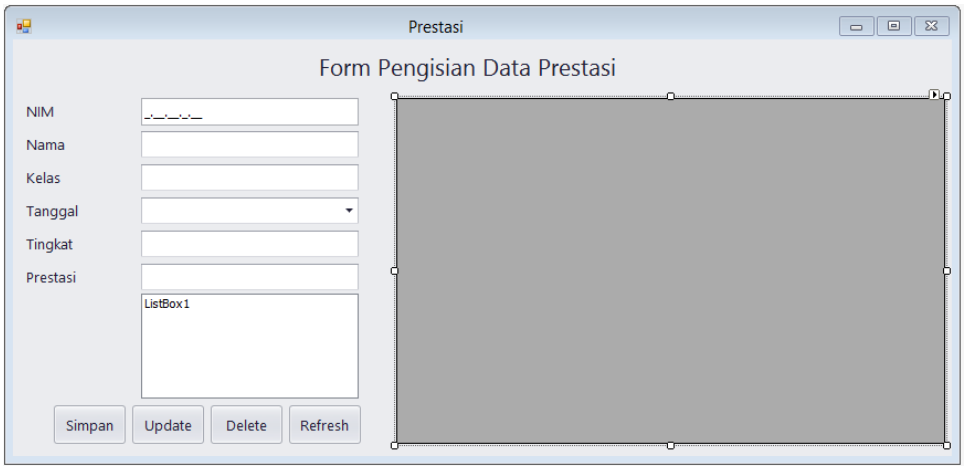
```
    Private Sub Beasiswa2_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        cnnOLEDB.ConnectionString = strConnectionString
        cnnOLEDB.Open()
        TampilData()
        ListBox1.Visible = False
        ButtonEnable()
    End Sub

    Sub ButtonEnable()
        BtnSimpan.Enabled = True
        BtnUpdate.Enabled = False
        BtnDelete.Enabled = False
        TxtNIM.Enabled = True
    End Sub
    Sub ButtonDisable()
        BtnSimpan.Enabled = False
        BtnUpdate.Enabled = True
        BtnDelete.Enabled = True
        TxtNIM.Enabled = False
    End Sub

    Sub TampilData()
        ADP = New OleDbDataAdapter("SELECT * FROM Beasiswa ORDER BY NIM",
cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Tabel1")
        DataGridView1.DataSource = DS.Tables("Tabel1")
    End Sub
    Sub IsiList()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa WHERE Nama_Mhs
LIKE '" & TxtNama.Text & "%' ORDER BY NIM "
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "List")
        ListBox1.Items.Clear()
        For i = 0 To DS.Tables("List").Rows.Count - 1
            ListBox1.Items.Add(DS.Tables("List").Rows(i).Item("Nama_Mhs").ToString)
        Next
    End Sub
    Sub IsiNim()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa  WHERE NIM = '" &
TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "NIM")
        For i = 0 To DS.Tables("NIM").Rows.Count - 1
            TxtNama.Text = (DS.Tables("NIM").Rows(i).Item("Nama_Mhs").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub IsiKelas()
        Dim query As String
        query = "SELECT Kelas FROM Kelas  WHERE NIM = '" & TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
```

```
        ADP.Fill(DS, "Kelas")
        TxtKelas.Text = ""
        For i = 0 To DS.Tables("Kelas").Rows.Count - 1
            TxtKelas.Text = (DS.Tables("Kelas").Rows(i).Item("Kelas").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub IsiComboBS()
        Dim query As String
        query = "SELECT Nama_BS FROM Master_BS "
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Combo")
        For i = 0 To DS.Tables("Combo").Rows.Count - 1

CmbBeasiswa.Items.Add(DS.Tables("Combo").Rows(i).Item("Nama_BS").ToString)
        Next
    End Sub
    Sub Bersih()
        TxtNIM.Text = ""
        TxtNama.Text = ""
        TxtKelas.Text = ""
        TxtTA.Text = ""
        CmbBeasiswa.SelectedText = ""

    End Sub

    Private Sub TxtNama_EditValueChanged(sender As Object, e As EventArgs)
Handles TxtNama.EditValueChanged
        ListBox1.Location = New Point(TxtNama.Location.X, TxtNama.Location.Y +
20)
        ListBox1.BringToFront()
        ListBox1.Visible = True
        IsiList()
    End Sub

    Private Sub ListBox1_SelectedIndexChanged(sender As Object, e As EventArgs)
Handles ListBox1.SelectedIndexChanged
        TxtNama.Text = ListBox1.SelectedItem
        ListBox1.Visible = False
    End Sub

    Private Sub TxtNIM_TextChanged(sender As Object, e As EventArgs) Handles
TxtNIM.TextChanged
        If TxtNIM.Text.Length() = 12 Then
            IsiNim()
            IsiKelas()
        End If
    End Sub

    Private Sub BtnSimpan_Click(sender As Object, e As EventArgs) Handles
BtnSimpan.Click
        If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
CmbBeasiswa.Text <> "" _
            And TxtTA.Text <> "" Then
            Try
                cmdInsert.CommandText = "INSERT INTO Beasiswa " & _
                "(NIM, Kode_BS, Tahun_Akademik)" & _
```

```
            "VALUES(@NIM, @Kode_BS, @TA)"

            cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
            cmdInsert.Parameters.AddWithValue("@Kode_BS",
Me.CmbBeasiswa.SelectedText)
            cmdInsert.Parameters.AddWithValue("@TA", Me.TxtTA.Text)

            cmdInsert.CommandType = CommandType.Text
            cmdInsert.Connection = cnnOLEDB
            cmdInsert.ExecuteNonQuery()
            MsgBox("Record inserted")
            TampilData()
        Catch ex As Exception
            MsgBox(ex.ToString)
        End Try
    Else
        MsgBox("Masukkan data secara lengkap")
    End If
End Sub

Private Sub BtnUpdate_Click(sender As Object, e As EventArgs) Handles
BtnUpdate.Click
    If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
CmbBeasiswa.Text <> "" _
        And TxtTA.Text <> "" Then
        Try
            cmdInsert.CommandText = "UPDATE Beasiswa SET" & _
            "NIM=@NIM, Kode_BS=@Kode_BS, Tahun_Akademik=@TA)"

            cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
            cmdInsert.Parameters.AddWithValue("@Kode_BS",
Me.CmbBeasiswa.SelectedText)
            cmdInsert.Parameters.AddWithValue("@TA", Me.TxtTA.Text)

            cmdInsert.CommandType = CommandType.Text
            cmdInsert.Connection = cnnOLEDB
            cmdInsert.ExecuteNonQuery()
            MsgBox("Record Updated")
            TampilData()
        Catch ex As Exception
            MsgBox(ex.ToString)
        End Try
    Else
        MsgBox("Masukkan data secara lengkap")
    End If
End Sub

Private Sub BtnDelete_Click(sender As Object, e As EventArgs) Handles
BtnDelete.Click
    Try
        cmdDelete.CommandText = "DELETE FROM Beasiswa WHERE NIM=@NIM"
        cmdDelete.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
        cmdDelete.CommandType = CommandType.Text
        cmdDelete.Connection = cnnOLEDB
        cmdDelete.ExecuteNonQuery()
        MsgBox("Record Deleted")
    Catch ex As Exception
        MsgBox(ex.ToString)
```

```
        End Try
        cmdDelete.Dispose()
        TampilData()
        Bersih()
    End Sub

    Private Sub BtnRefresh_Click(sender As Object, e As EventArgs) Handles
BtnRefresh.Click
        Bersih()
        ButtonEnable()
        ListBox1.Visible = False
    End Sub

    Private Sub DataGridView1_CellContentClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DataGridView1.CellContentClick
        GetData(e)
        ButtonDisable()
    End Sub

    Private Sub DataGridView1_CellContextMenuStripChanged(sender As Object, e
As DataGridViewCellEventArgs) Handles
DataGridView1.CellContextMenuStripChanged
        GetData(e)
        ButtonDisable()
    End Sub
    Sub GetData(e)
        Dim NIM As Object = DataGridView1.Rows(e.RowIndex).Cells(0).Value
        Dim Beasiswa As Object = DataGridView1.Rows(e.RowIndex).Cells(1).Value
        Dim TA As Object = DataGridView1.Rows(e.RowIndex).Cells(2).Value
        Dim Tanggal As Object = DataGridView1.Rows(e.RowIndex).Cells(3).Value
        Dim Ijin As Object = DataGridView1.Rows(e.RowIndex).Cells(4).Value
        Dim Sakit As Object = DataGridView1.Rows(e.RowIndex).Cells(5).Value
        Dim Alpa As Object = DataGridView1.Rows(e.RowIndex).Cells(6).Value

        TxtNIM.Text = CType(NIM, String)
        CmbBeasiswa.Text = CType(Beasiswa, String)
        TxtTA.Text = CType(TA, String)
    End Sub
End Class
```

7. Desain Kembali Form baru atau form transaksi Prestasi seperti berikut :



8. Langkah selanjutnya adalah memberikan kode program terhadap desain yang sudah dibuat. Ketikkan kode program berikut.

```
Imports System.Data
Imports System.Data.OleDb
Imports System.IO
Public Class Prestasi
    Dim cnnOLEDB As New OleDbConnection
    Dim cmdOLEDB As New OleDbCommand
    Dim cmdInsert As New OleDbCommand
    Dim cmdUpdate As New OleDbCommand
    Dim cmdDelete As New OleDbCommand
    Dim strConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source="
& _
        System.Environment.CurrentDirectory & "\Akademik.accdb"
    Public ADP As OleDbDataAdapter
    Public DS As New DataSet

    Private Sub Prestasi_Click(sender As Object, e As EventArgs) Handles Me.Click
        ListBox1.Visible = False
    End Sub
    Private Sub Prestasi_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        cnnOLEDB.ConnectionString = strConnectionString
        cnnOLEDB.Open()
        TampilData()
        ListBox1.Visible = False
        ButtonEnable()
    End Sub
    Sub ButtonEnable()
        BtnSimpan.Enabled = True
        BtnUpdate.Enabled = False
        BtnDelete.Enabled = False
        TxtNIM.Enabled = True
    End Sub
    Sub ButtonDisable()
        BtnSimpan.Enabled = False
        BtnUpdate.Enabled = True
        BtnDelete.Enabled = True
        TxtNIM.Enabled = False
    End Sub
    Sub TampilData()
        ADP = New OleDbDataAdapter("SELECT * FROM Prestasi ORDER BY NIM",
cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Tabel1")
        DataGridView1.DataSource = DS.Tables("Tabel1")
    End Sub
    Sub IsiList()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa WHERE Nama_Mhs
LIKE '" & TxtNama.Text & "%' ORDER BY NIM "
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "List")
        ListBox1.Items.Clear()
        For i = 0 To DS.Tables("List").Rows.Count - 1
            ListBox1.Items.Add(DS.Tables("List").Rows(i).Item("Nama_Mhs").ToString)
```

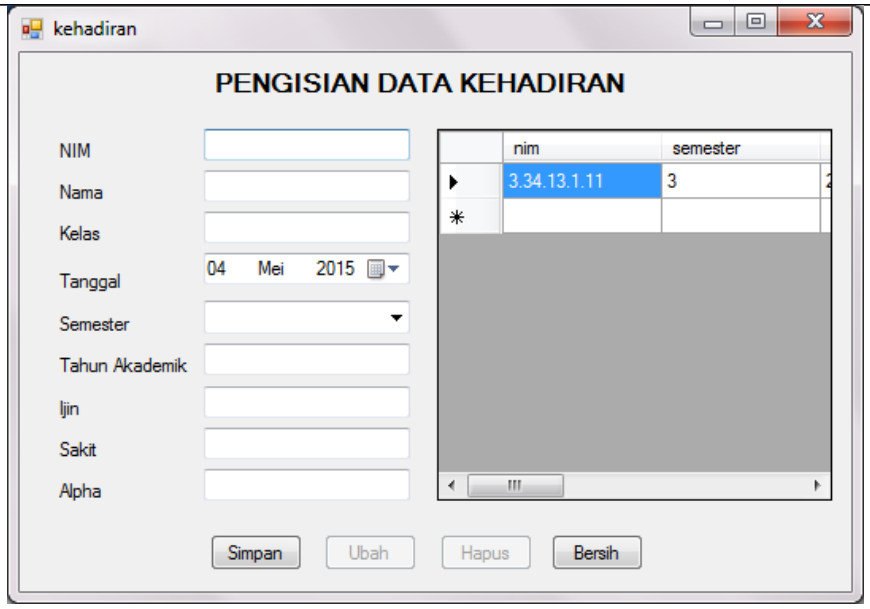
```
        Next
    End Sub
    Sub IsiNim()
        Dim query As String
        query = "SELECT Nama_Mhs FROM Master_Mahasiswa  WHERE NIM = '" &
TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "NIM")
        For i = 0 To DS.Tables("NIM").Rows.Count - 1
            TxtNama.Text = (DS.Tables("NIM").Rows(i).Item("Nama_Mhs").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub IsiKelas()
        Dim query As String
        query = "SELECT Kelas FROM Kelas  WHERE NIM = '" & TxtNIM.Text & "'"
        ADP = New OleDbDataAdapter(query, cnnOLEDB)
        DS = New DataSet
        ADP.Fill(DS, "Kelas")
        TxtKelas.Text = ""
        For i = 0 To DS.Tables("Kelas").Rows.Count - 1
            TxtKelas.Text = (DS.Tables("Kelas").Rows(i).Item("Kelas").ToString)
        Next
        ListBox1.Visible = False
    End Sub
    Sub Bersih()
        TxtNIM.Text = ""
        TxtNama.Text = ""
        TxtKelas.Text = ""
        Tgl.Text = ""
        TxtTingkat.Text = ""
        TxtPrestasi.Text = ""
    End Sub
    Private Sub TxtNama_TextChanged(sender As Object, e As EventArgs) Handles
TxtNama.TextChanged
        ListBox1.Location = New Point(TxtNama.Location.X, TxtNama.Location.Y +
20)
        ListBox1.BringToFront()
        ListBox1.Visible = True
        IsiList()
    End Sub

    Private Sub ListBox1_SelectedIndexChanged(sender As Object, e As EventArgs)
Handles ListBox1.SelectedIndexChanged
        TxtNama.Text = ListBox1.SelectedItem
        ListBox1.Visible = False
    End Sub

    Private Sub BtnSimpan_Click(sender As Object, e As EventArgs) Handles
BtnSimpan.Click
        If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
Tgl.Text <> "" And TxtTingkat.Text <> "" _
            And TxtPrestasi.Text <> "" Then
            Try
                cmdInsert.CommandText = "INSERT INTO Prestasi " & _
                "(NIM, Tanggal, Tingkat, Prestasi)" & _
                "VALUES(@NIM, @Tgl, @Tingkat, @Prestasi)"
```

```
            cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
            cmdInsert.Parameters.AddWithValue("@Tgl", Me.Tgl.Text)
            cmdInsert.Parameters.AddWithValue("@Tingkat", Me.TxtTingkat.Text)
            cmdInsert.Parameters.AddWithValue("@Prestasi", Me.TxtPrestasi.Text)

            cmdInsert.CommandType = CommandType.Text
            cmdInsert.Connection = cnnOLEDB
            cmdInsert.ExecuteNonQuery()
            MsgBox("Record inserted")
            TampilData()
        Catch ex As Exception
            MsgBox(ex.ToString)
        End Try
    Else
        MsgBox("Masukkan data secara lengkap")
    End If
End Sub

Private Sub BtnUpdate_Click(sender As Object, e As EventArgs) Handles
BtnUpdate.Click
    If TxtNIM.Text <> "" And TxtNama.Text <> "" And TxtKelas.Text <> "" And
Tgl.Text <> "" And TxtTingkat.Text <> "" _
        And TxtPrestasi.Text <> "" Then
        Try
            cmdInsert.CommandText = "UPDATE Prestasi SET" & _
            "(NIM=@NIM, Tanggal=@Tgl, Tingkat=@Tingkat, Prestasi=@Prestasi)"

            cmdInsert.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
            cmdInsert.Parameters.AddWithValue("@Tgl", Me.Tgl.Text)
            cmdInsert.Parameters.AddWithValue("@Tingkat", Me.TxtTingkat.Text)
            cmdInsert.Parameters.AddWithValue("@Prestasi", Me.TxtPrestasi.Text)

            cmdInsert.CommandType = CommandType.Text
            cmdInsert.Connection = cnnOLEDB
            cmdInsert.ExecuteNonQuery()
            MsgBox("Record inserted")
            TampilData()
        Catch ex As Exception
            MsgBox(ex.ToString)
        End Try
    Else
        MsgBox("Masukkan data secara lengkap")
    End If
End Sub

Private Sub BtnDelete_Click(sender As Object, e As EventArgs) Handles
BtnDelete.Click
    Try
        cmdDelete.CommandText = "DELETE FROM Prestasi WHERE NIM=@NIM"
        cmdDelete.Parameters.AddWithValue("@NIM", Me.TxtNIM.Text)
        cmdDelete.CommandType = CommandType.Text
        cmdDelete.Connection = cnnOLEDB
        cmdDelete.ExecuteNonQuery()
        MsgBox("Record Deleted")
    Catch ex As Exception
        MsgBox(ex.ToString)
    End Try
```

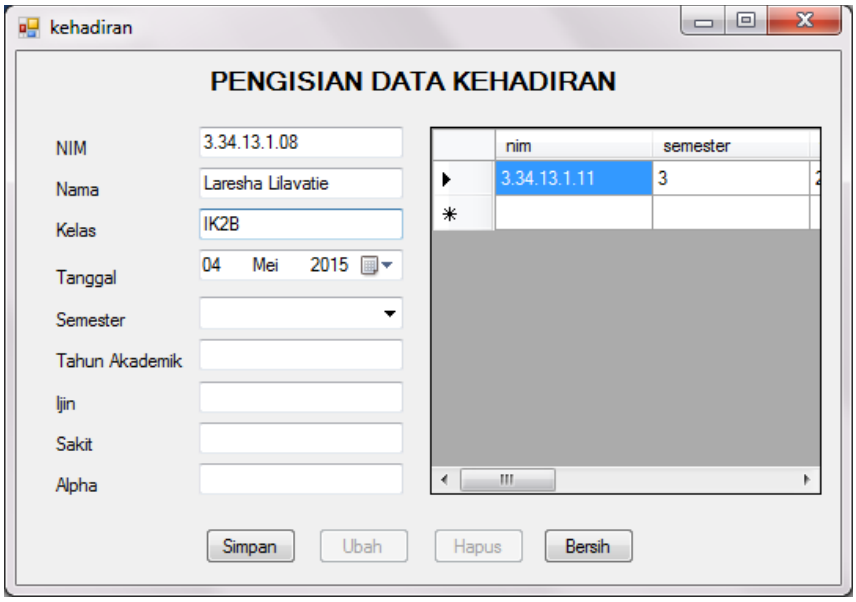
```
        cmdDelete.Dispose()
        TampilData()
        Bersih()
    End Sub

    Private Sub BtnRefresh_Click(sender As Object, e As EventArgs) Handles
BtnRefresh.Click
        Bersih()
        ButtonEnable()
        ListBox1.Visible = False
    End Sub

    Private Sub DataGridView1_CellContentClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DataGridView1.CellContentClick
        GetData(e)
        ButtonDisable()
    End Sub

    Private Sub DataGridView1_CellContextMenuStripChanged(sender As Object, e
As DataGridViewCellEventArgs) Handles
DataGridView1.CellContextMenuStripChanged
        GetData(e)
        ButtonDisable()
    End Sub
    Sub GetData(e)
        Dim NIM As Object = DataGridView1.Rows(e.RowIndex).Cells(0).Value
        Dim Tanggal As Object = DataGridView1.Rows(e.RowIndex).Cells(1).Value
        Dim Tingkat As Object = DataGridView1.Rows(e.RowIndex).Cells(3).Value
        Dim Prestasi As Object = DataGridView1.Rows(e.RowIndex).Cells(4).Value

        TxtNIM.Text = CType(NIM, String)
        Tgl.Text = CType(Tanggal, String)
        TxtTingkat.Text = CType(Tingkat, String)
        TxtPrestasi.Text = CType(Prestasi, String)
    End Sub
End Class
```

V. Lembar Kerja

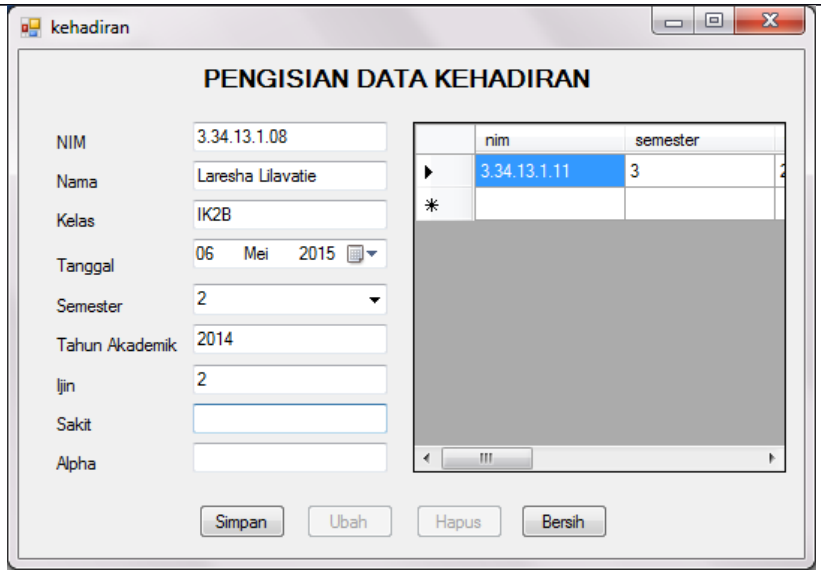
No	Praktik	Hasil Program
1.	Form6 Transaksi Kehadiran	Form awal Pengisian data Kehadiran



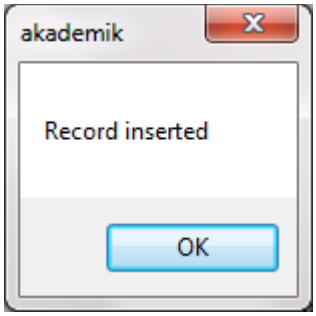
Ketika ketikkan NIM, maka akan muncul data mahaiswa nim tersebut secara otomatis



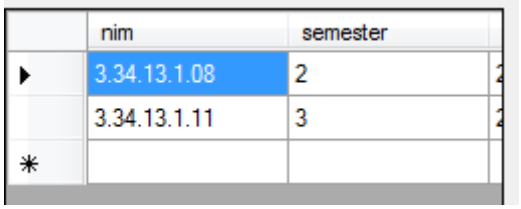
Isikan data lengkapnya, dan kemudian disimpan



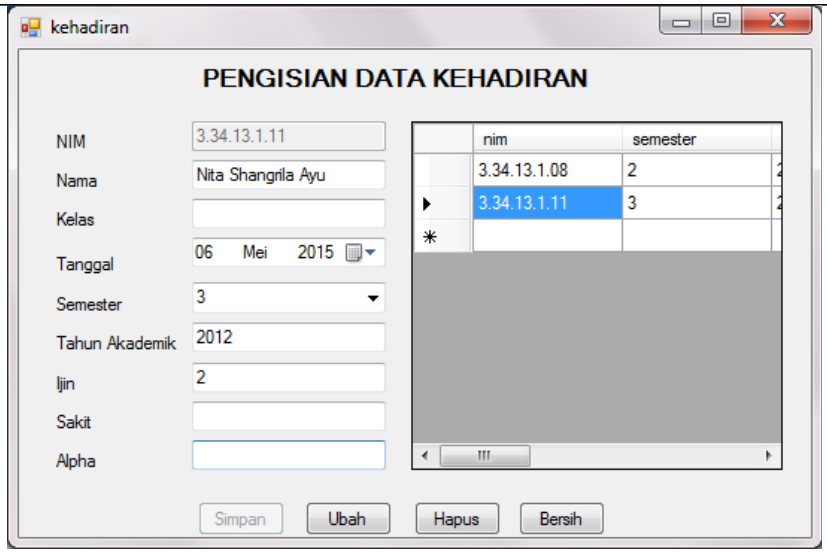
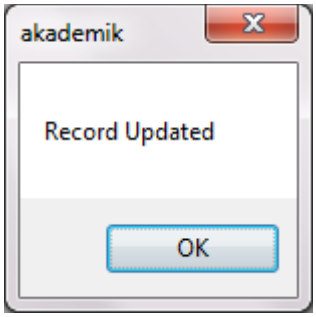
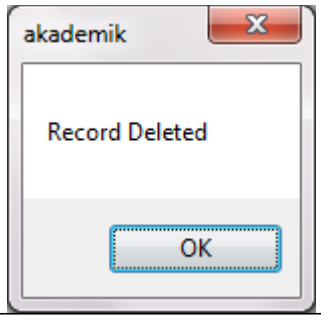
Klik button Simpan

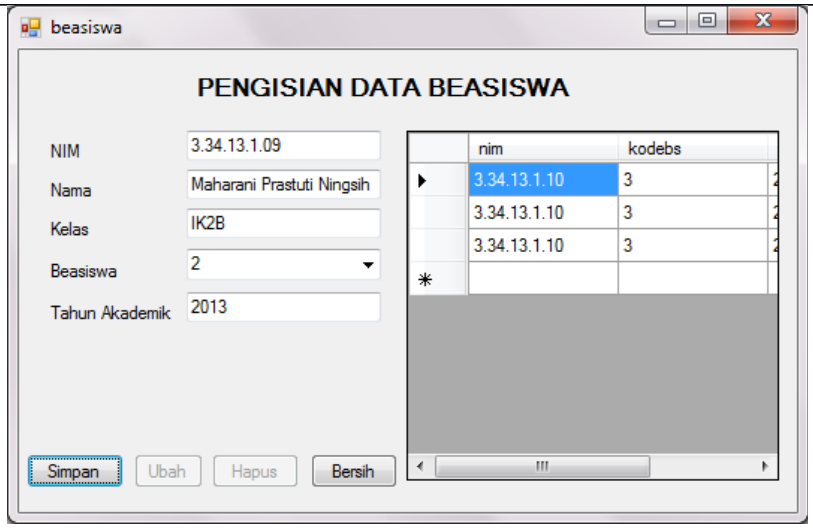


Data yang sudah di inputkan, muncul pada data grid view

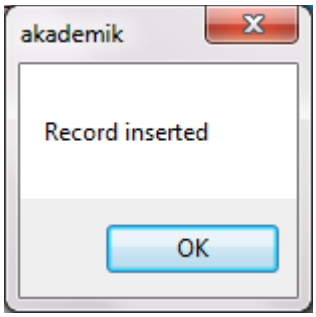


Untuk mengubah data klik dua kali pada data grid view, maka data akan muncul pada text box

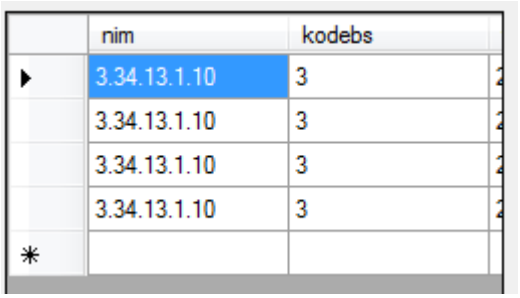
		 Kemudian ubah data sesuai yang diinginkan dan klik tombol ubah, maka data akan terubah  Untuk menghapus data pada data grid view klik dua kali pada data lalu klik tombol hapus, maka data akan terhapus 
2	Form7 Transaksi Beasiswa	Ketikan Nim maka data akan muncul secara otomatis



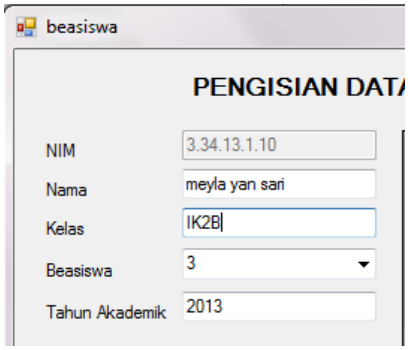
Kemudian klik simpan



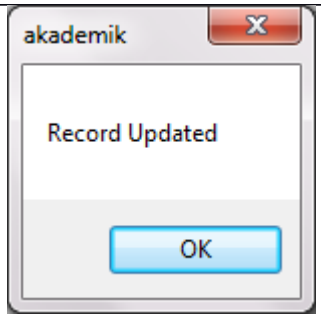
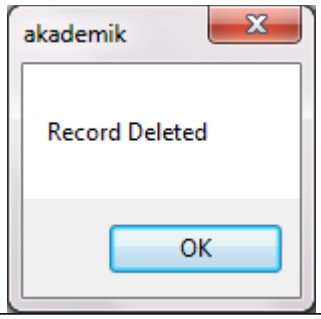
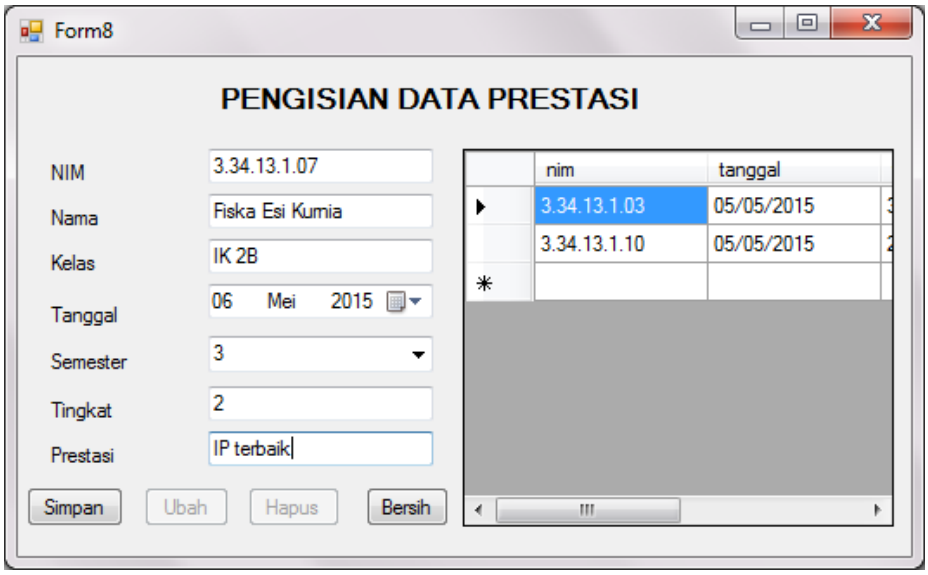
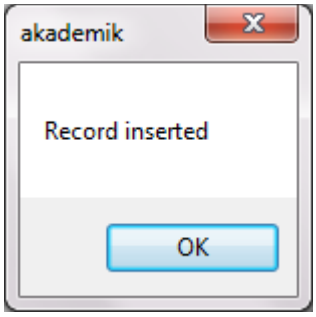
Data tersimpan akan muncul pada data grid view

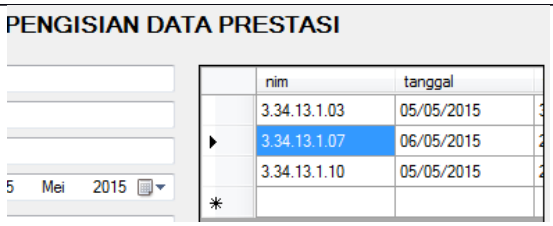


Ubah data klik dua kali pada data grid view maka data akan muncul pada kolom pengisian

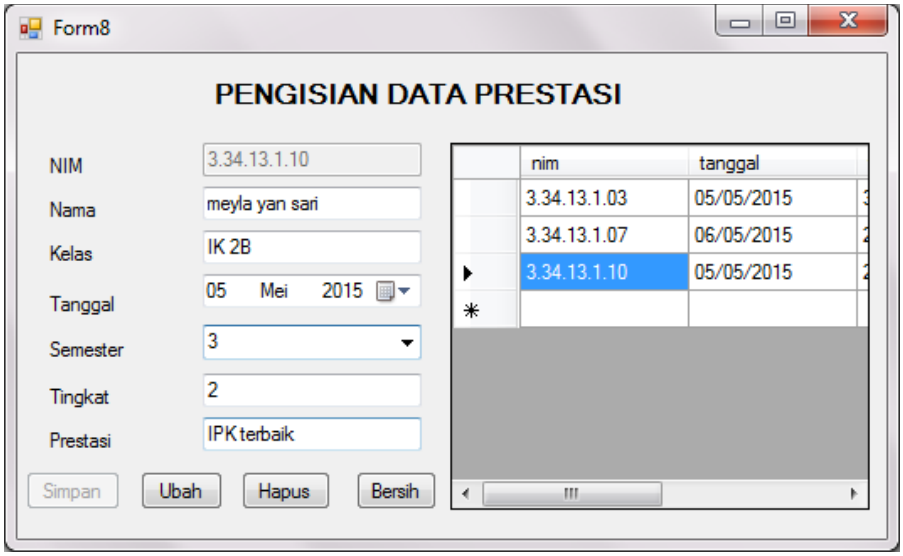


Kemudian ubah data sesuai yang diinginkan dan klik tombol ubah

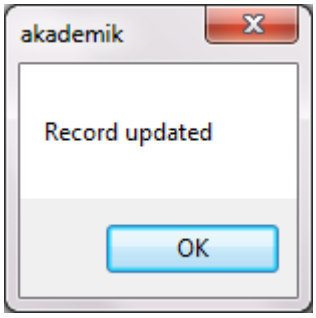
		 Untuk menghapus data pada data grid view klik dua kali pada data lalu klik tombol hapus 
3	Form8 Transaksi Prestasi	Isikan data pada textbox  Klik tombol simpan  Data yang disimpan, akan muncul pada data gridview



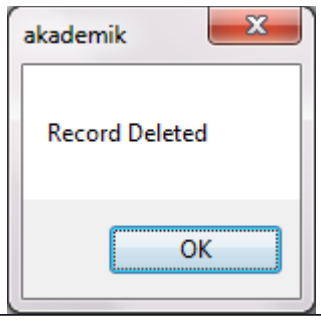
Untuk melakukan edit data, klik dua kali pada data yang akan di ubah di data grid view. Maka data akan muncul pada text box



Klik tombol ubah



Untuk menghapus, lakukan klik ganda pada data yang akan di hapus di data grid viw. Kemudian klik tombol hapus



VI. Pertanyaan

1. Apa kegunaan auto fill dalam praktek ini.

   Jawab :

   Mempermudah kita untuk mendapatkan data yang kita butuhkan dari dalam tabel master dan meminimalisir terjadinya kesalahan input data. Kita tidak perlu mengetikkan satu per satu data dalam kolom pengisian data.

   Dalam praktikum ini di contohkan, kit hanya perlu mengetikkan nim, kemudian kelas dan kelas akan terisi secara otoatis dari sistem.

2. Apa kegunaan autu suggenstion dalam transaksi data.

   Jawab :

   Membuat textbox Auto Complete atau combobox auto complete di VB net adalah teknik melengkapi teks pada ComboBox (sesuai item yang telah terdaftar pada ComboBox) berdasarkan penggalan teks yang dimasukkan, hal ini akan memudahkan kita dalam pencarian sebuah data yang telah tersimpan di dalam database dan meminimalisir terjadinya kesalahan input data. Query select untuk mendapatkan data dari database lalu meletakan data ke datatable setelah itu.

   Misal kita akan melakukan penulisan nama, kita hanya perlu menuliskan nama depan pada kolom pengisian nama, dan sistem akan menunjukkan nama lengkap dari nama depan ang kita ketikkan.

VII. Kesimpulan

Melalui praktikum ini dapat di simpulkan bahwa :

- Form transaksi di gunakan untuk melakukan intetaksi antar table master, yang memudahkan kita menginputkan data transaksi
- Dalam proses pencarian atau penginputan data dapat di lakukan dengn Auto suggestion karena akan memnimalisir kesalahan pada saat lakukan penginputan data.
- Auto fill memiliki fungsi yang sama dengan auto suggestion, hanaya saja auto fill akan melakukan pengisisan data secara otomatis pada text box yang sudah terdapat dalam database.
- Untuk menggunakan auto fill ataupun auto sugestion ktadapat lakukan dengan pemberian query di dalam textbox yang bersangkutan.