

# 详细设计说明书

## 系统功能实现

从需求分析可以看出，系统功能庞杂，主要分为前台浏览器 (B/S) 信息发布和数据查询，后台 (C/S) 数据管理和处理，教务管理功能部分数据分为四类：学生基本信息相关；教师基本信息相关；课程信息相关； 学生成绩综合查询相关。从使用和操作的功能上分，有三种用户：该校学生；业务数据管理人员（学生工作辅导员、教务干事）；系统管理员。为便于整个系统组织管理，把各个相对独立的数据或功能组织到整个大系统中来，我们把各个相对独立的功能完全独立设计，编译成独立的目标(功能)模块（single Executable），各功能模块最后被集成到一个称为虚拟桌面的控制台模块中。相应地将系统结构分为一个控制台程序和七个子系统，各子系统又分为若干各子模块。对应于每一个模块，几乎都有录入、查询、修改、删除、查看详细资料等这几个功能。整个业务流程就是由这几种基本功能实现的。在这里每个模块都要用到的功能没必要在每个子模块里重复阐述，在每个子模块里只列出区别于其它子模块的功能实现。

### 1. 系统控制台模块

功能：

各子功能模块的组织 and 调用；

统一的登陆界面实现到数据库服务器的登陆；

显示教务主页

系统图标。

设计：

#### (1). 登陆数据库：

输入数据库服务器名 (ServerIP)、用户账号 () UserID、密码 (PassWord)； 登陆数据库服务器，检索系统权限表，根据权限设置相应功能模块：

①无此用户或禁止权限

Enable = False;

## ②浏览权限

Enable = True;

修改 User ID=            ;

修改 Pass Word :=            ;

## ③修改权限

Enable = True;

修改 User ID =            ;

修改 Pass Word :=            ;

(2). 采用 WinXP 下程序组、程序项的原理组织各执行模块:

登陆服务器

基础维护

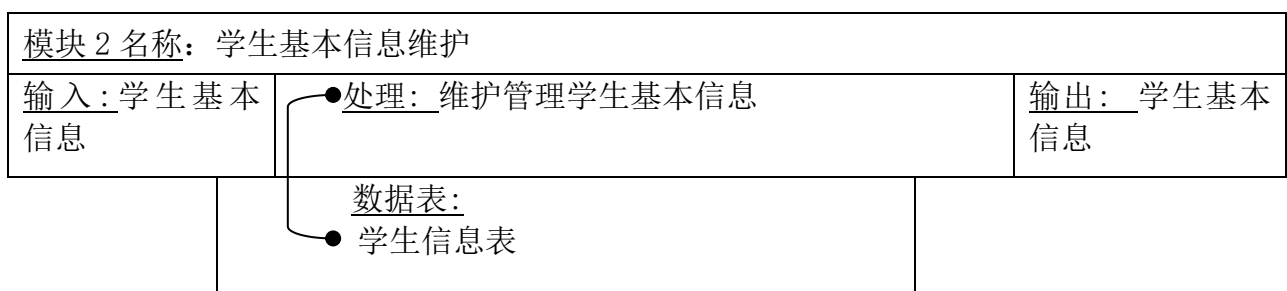
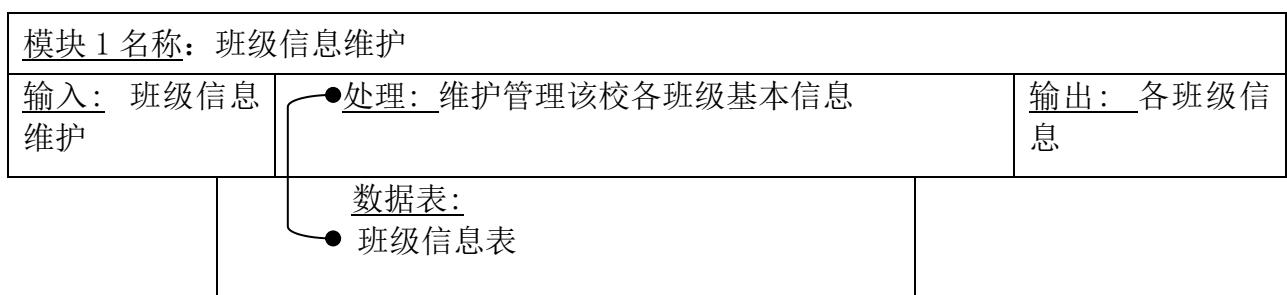
教学管理

报表统计

退出

各程序组、程序项的显示分别可以是分层/树状/大图标/小图标等方式；各程序项或菜单项的名称命名为相应功能模块的目标代码文件名。

2. 各具体模块如下:



|                |  |         |
|----------------|--|---------|
| 模块 3 名称：课程信息维护 |  |         |
| 输入：课程信息维护      | ●处理：维护管理课程基本信息   | 输出：课程信息 |
|                | 数据表： <ul style="list-style-type: none"> <li>● 课程信息表</li> </ul> |         |

|                |   |           |
|----------------|---|-----------|
| 模块 4 名称：学生选课信息 |   |           |
| 输入：学生选课信息      | ●处理：维护管理学生选课信息  | 输出：学生选课信息 |
|                | 数据表： <ul style="list-style-type: none"> <li>● 学生基本信息表</li> <li>课程信息表</li> </ul> |           |

|              |   |           |
|--------------|---|-----------|
| 模块 5 名称：课表查询 |   |           |
| 输入：课表查询      | ●处理：维护管理课表查询信息  | 输出：所查班级课表 |
|              | 数据表： <ul style="list-style-type: none"> <li>● 学生基本信息表</li> <li>班级信息表</li> </ul> |           |

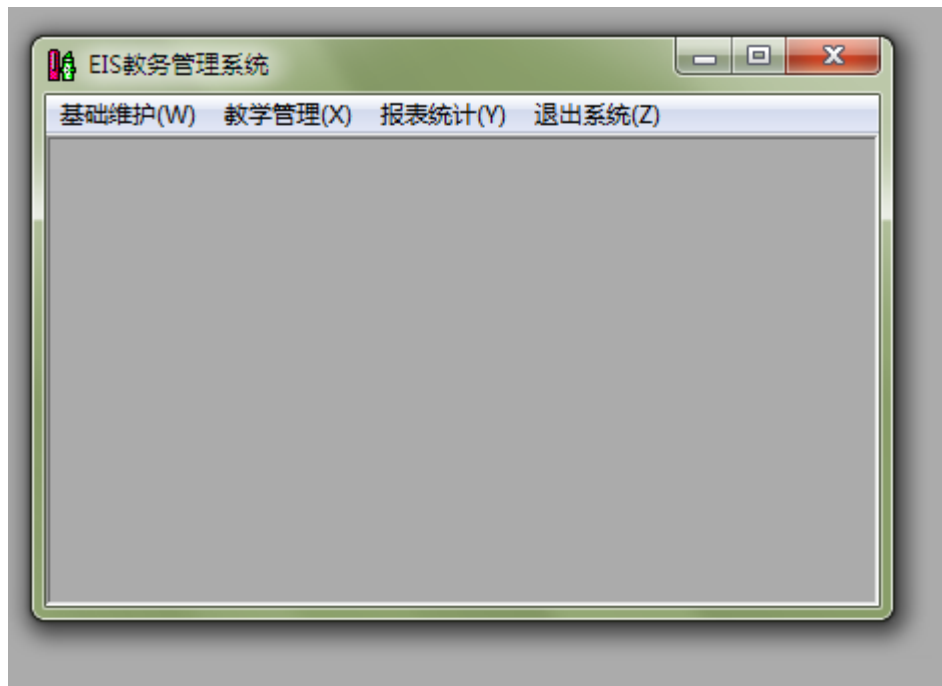
|              |   |       |
|--------------|---|-------|
| 模块 6 名称：成绩输入 |   |       |
| 输入：成绩输入      | ●处理：维护管理成绩输入信息  | 输出：成绩 |
|              | 数据表： <ul style="list-style-type: none"> <li>● 学生基本信息表</li> <li>课程信息表</li> </ul> |       |

|  |
|--|
|  |
|--|

|                 |   |         |
|-----------------|---|---------|
| 模块 7 名称：教师信息为维护 |   |         |
| 输入：教师信息为维护      | <ul style="list-style-type: none"> <li>● 处理：维护管理教师信息</li> </ul> | 输出：教师信息 |
|                 | 数据表： <ul style="list-style-type: none"> <li>● 教师信息表</li> </ul>  |         |

#### 4. 具体设计：

设计功能实现



包括：班级信息维护，学生信息维护，课程信息维护，学生选课，课表查询，成绩输入，报表统计，退出系统

```
Public Class frmMain
```

```
    Inherits System.Windows.Forms.Form
```

```
    Private Function GetInstanceState(ByVal name As String) As Boolean
```

```
        ' 获得frmMain窗体的子窗体的数量
```

```
        Dim i As Integer = Me.MdiChildren.Length
```

```
        ' 循环判断是否有名为name的子窗体实例
```

```
        For i = 0 To Me.MdiChildren.Length - 1
```

```

        If Me.MdiChildren(i).Name = name Then
            ' 存在名为name的子窗体，是子窗体获得焦点并返回True
            Me.MdiChildren(i).Focus()
            Return True
        End If
    Next
    ' 不存在名为Name的子窗体False
    Return False
End Function

Private Sub mnClass_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles mnClass.Click
    If GetInstanceState("frmClass") Then
        Exit Sub
    End If
    Dim childFrm As frmClass = New frmClass
    childFrm.MdiParent = Me
    childFrm.Show()
End Sub

Private Sub mnStudent_Click(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles mnStudent.Click
    If GetInstanceState("frmStudent") Then
        Exit Sub
    End If
    Dim childFrm As frmStudent = New frmStudent
    childFrm.MdiParent = Me
    childFrm.Show()
End Sub

Private Sub mnSubject_Click(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles mnSubject.Click
    If GetInstanceState("frmSubject") Then
        Exit Sub
    End If
    Dim childFrm As frmSubject = New frmSubject
    childFrm.MdiParent = Me
    childFrm.Show()
End Sub

Private Sub mnSelect_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles mnSelect.Click
    If GetInstanceState("frmSelect") Then
        Exit Sub
    End If

```

```

        Dim childFrm As frmSelect = New frmSelect
        childFrm.MdiParent = Me
        childFrm.Show()
    End Sub

    Private Sub mnCourse_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles mnCourse.Click
        If GetInstanceState("frmCourse") Then
            Exit Sub
        End If
        Dim childFrm As frmCourse = New frmCourse
        childFrm.MdiParent = Me
        childFrm.Show()
    End Sub

    Private Sub mnResult_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles mnResult.Click
        If GetInstanceState("frmScore") Then
            Exit Sub
        End If
        Dim childFrm As frmScore = New frmScore
        childFrm.MdiParent = Me
        childFrm.Show()
    End Sub

    Private Sub mnReport_Click(ByVal sender As System.Object, ByVal e
As System.EventArgs) Handles mnReport.Click
        If GetInstanceState("frmReport") Then
            Exit Sub
        End If
        Dim childFrm As frmReport = New frmReport
        childFrm.MdiParent = Me
        childFrm.Show()
    End Sub

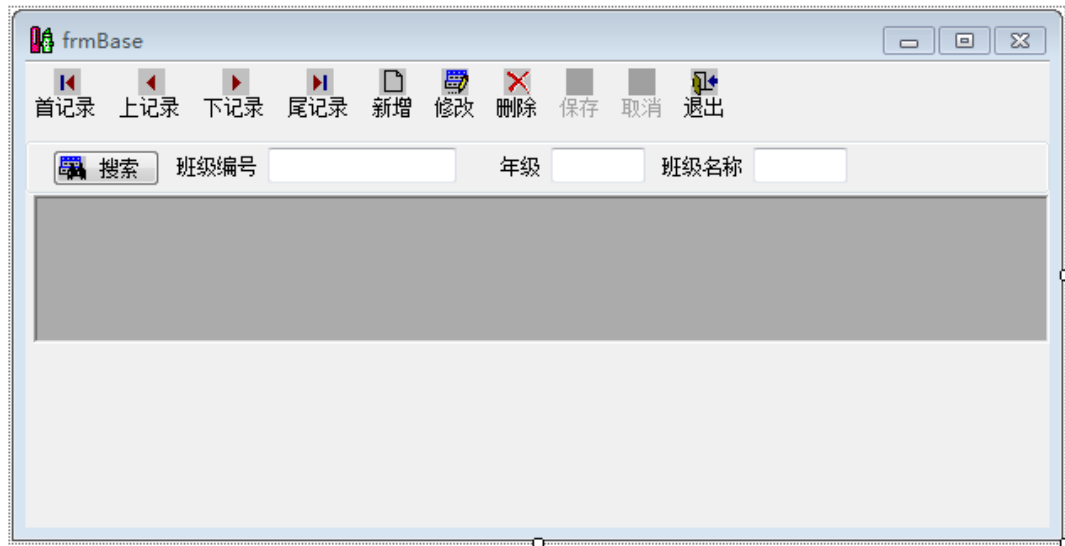
    Private Sub mnExit_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles mnExit.Click

    End Sub
End Class

```

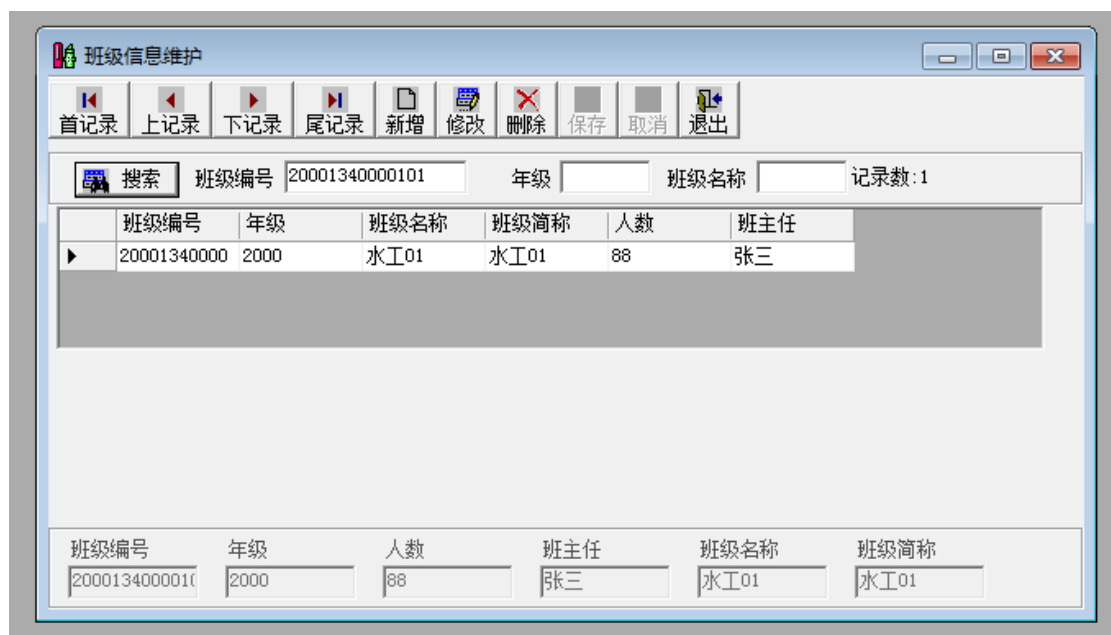
## 5. 基础维护：

### 5.1 班级信息维护



实现的功能包括： 查看首记录：表中首个班级记录，上记录， 下记录， 查尾记录，新增，修改，删除等

可实现模糊搜索功能 即：输入班级编号可查询相关班级信息  
如下所示：



```
Public Class frmBase
    Inherits System.Windows.Forms.Form
    Protected bmData As BindingManagerBase
```

```

Protected dtData As DataTable
' bAdd = true 为新增
' bAdd = false 为修改
Protected bAdd As Boolean

Private Sub frmBase_Load(ByVal sender As Object, _
    ByVal e As System.EventArgs) Handles MyBase.Load
    Prepare()
    SetDataGrid()
    SetTextBoxState(True)
End Sub

Private Sub ToolBar1_ButtonClick(ByVal sender As Object, _
    ByVal e As ToolBarButtonClickEventArgs) _
    Handles ToolBar1.ButtonClick
    Select Case e.Button.Text
        Case "首记录"
            ' 返回首记录
            bmData.Position = 0
        Case "上记录"
            If bmData.Position <> 0 Then
                bmData.Position -= 1
            End If
        Case "下记录"
            If bmData.Position <> bmData.Count Then
                bmData.Position += 1
            End If
        Case "尾记录"
            ' 返回尾记录
            bmData.Position = bmData.Count
        Case "新增"
            Me.dgdList.Enabled = False
            SetTextBoxState(False)
            SetToolBarState(False)
            bAdd = True
            Clear()
        Case "修改"
            Me.dgdList.Enabled = False
            SetTextBoxState(False)
            SetToolBarState(False)
            bAdd = False
        Case "删除"
            ' 弹出询问对话框
            Dim dlgResult As DialogResult = _

```



```

        MessageBox.Show("你确认删除此数据?", _
        "删除", MessageBoxButtons.OKCancel)
    If dlgResult = DialogResult.OK Then
        DeleteData()
    End If
Case "保存"
    SetToolBarState(True)
    SetTextBoxState(True)
    If bAdd = True Then
        ' 为新增数据保存
        SaveForAdd()
    Else
        ' 为更新数据保存
        SaveForUpdate()
    End If
    Me.dgdList.Enabled = True
Case "取消"
    SetTextBoxState(True)
    SetToolBarState(True)
    Me.dgdList.Enabled = True
    SearchResult()
Case "退出"
    ' 关闭本窗体
    Me.Close()
End Select
Try
    Me.dgdList.CurrentRowIndex = bmData.Position
    SetData()
Catch ex As Exception
End Try
End Sub

Private Sub btnSearch_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnSearch.Click
    SearchResult()
End Sub

Private Sub dgdList_CurrentCellChanged(ByVal sender As Object, _
ByVal e As System.EventArgs) Handles dgdList.CurrentCellChanged
    Try
        ' 判断bmData是否为Nothing
        If bmData Is Nothing Then
            Exit Sub
        End If
    End Try

```

```

        End If
        If bmData.Position <> dgdList.CurrentCell.RowNumber Then
            bmData.Position = dgdList.CurrentCell.RowNumber
            SetData()
        End If
    Catch ex As Exception
        MessageBox.Show(ex.ToString)
    End Try

End Sub

Private Sub SetToolBarState(ByVal bState As Boolean)
    ' 设置Button的是否能够单击
    ToolBar1.Buttons(0).Enabled = bState
    ToolBar1.Buttons(1).Enabled = bState
    ToolBar1.Buttons(2).Enabled = bState
    ToolBar1.Buttons(3).Enabled = bState
    ToolBar1.Buttons(4).Enabled = bState
    ToolBar1.Buttons(5).Enabled = bState
    ToolBar1.Buttons(6).Enabled = bState
    ToolBar1.Buttons(7).Enabled = Not bState
    ToolBar1.Buttons(8).Enabled = Not bState
End Sub

Public Overridable Sub Prepare()
End Sub

' 设置DataGrid控件
Public Overridable Sub SetDataGrid()
End Sub

' 查询函数
Public Overridable Sub SearchResult()
    SetDataGrid()
    ' dgdList.DataSource = dtData.DefaultView
End Sub

' 新增函数
Public Overridable Sub LoadData()
End Sub

Public Overridable Sub SaveForAdd()
End Sub

' 更新函数
Public Overridable Sub SaveForUpdate()
End Sub

' 删除函数
Public Overridable Sub DeleteData()
End Sub

```

```

'清除函数
Public Overridable Sub Clear()
End Sub
'设置TextBox函数
Public Overridable Sub SetTextBoxState(ByVal bState As Boolean)
End Sub
Public Overridable Sub SetData()

End Sub

End Class

```

## 5.2 学生信息维护

| 学号          | 姓名  | 班级编号        | 性别 | 年级   | 身份证号        | 政治面貌编 | 民族 |
|-------------|-----|-------------|----|------|-------------|-------|----|
| 20001340000 | 陈建军 | 20001340000 | 男  | 2000 | 34010469020 | 13    | 01 |
| 20001340000 | 陈康  | 20001340000 | 男  | 2000 | 34010469060 | 01    | 01 |
| 20001340000 | 陈黎  | 20001340000 | 男  | 2000 | 34010470120 | 01    | 01 |

实现的功能包括： 查看首记录 ，上记录， 下记录， 查尾记录，新增，修改，删除等

可实现模糊搜索功能  
如下所示：

学生信息维护

首记录 上记录 下记录 尾记录 新增 修改 删除 保存 取消 退出

搜索 学号 2000134000007 姓名 年级 记录数:1

| 学号           | 姓名 | 班级编号        | 性别 | 年级   | 身份证号        | 政治面貌编 | 民族编 |
|--------------|----|-------------|----|------|-------------|-------|-----|
| 200013400000 | 承黎 | 20001340000 | 男  | 2000 | 34010470120 | 01    | 01  |

学号 姓名 性别 年级 身份证号

200013400000 承黎 男 2000 340104701209101

班级编号 政治面貌编号 民族编号

水工01 党员 汉族

籍贯编号 学籍编号

安徽 毕业

Public Class frmStudent

Inherits 教务管理系统.frmBase

Public Overrides Sub Prepare()

Me.Text = "学生信息维护"

Me.Label1.Text = "学号"

Me.Label2.Text = "姓名"

Me.Label3.Text = "年级"

' 设置ComboBox控件数据源

Dim db As DataBase = New DataBase

Dim dv As DataView = db.RunSelectSQL \_

("select 班级编号, 班级名称 from 班级信息 order by 班级名称")

Me.cbbClassId.DataSource = dv

Me.cbbClassId.DisplayMember = "班级名称"

Me.cbbClassId.ValueMember = "班级编号"

dv = db.RunSelectSQL \_

("select 政治面貌编号, 政治面貌 from 政治面貌代码表")

Me.cbbPolity.DataSource = dv

Me.cbbPolity.DisplayMember = "政治面貌"

Me.cbbPolity.ValueMember = "政治面貌编号"

dv = db.RunSelectSQL("select 民族编号, 民族 from 民族代码表")

Me.cbbNation.DataSource = dv

Me.cbbNation.DisplayMember = "民族"

Me.cbbNation.ValueMember = "民族编号"

dv = db.RunSelectSQL("select 籍贯编号, 籍贯 from 籍贯代码表")

Me.cbbBirthPlace.DataSource = dv

Me.cbbBirthPlace.DisplayMember = "籍贯"

Me.cbbBirthPlace.ValueMember = "籍贯编号"

```

    dv = db.RunSelectSQL("select 学籍编号,学籍名称from 学籍代码表
")

Me.cbbStatus.DataSource = dv
Me.cbbStatus.DisplayMember = "学籍名称"
Me.cbbStatus.ValueMember = "学籍编号"
db.Dispose()
End Sub
Public Overrides Sub LoadData()
    Dim strFilter As String
    If txbOne.Text.Trim.Length = 0 Then
        If txbTwo.Text.Trim.Length = 0 Then
            If txbThree.Text.Trim.Length = 0 Then
                strFilter = ""
            Else
                strFilter = "where 年级like '"
                strFilter += txbThree.Text.Trim + "%'"
            End If
        Else
            strFilter = "where 姓名like '"
            strFilter += txbTwo.Text.Trim + "%'"
            If txbThree.Text.Trim.Length <> 0 Then
                strFilter += " and 年级like '"
                strFilter += txbThree.Text.Trim + "%'"
            End If
        End If
    Else
        strFilter = "where 学号like '"
        strFilter += txbOne.Text.Trim + "%'"
        If txbTwo.Text.Trim.Length <> 0 Then
            strFilter += " and 姓名like '"
            strFilter += txbTwo.Text.Trim + "%'"
            If txbThree.Text.Trim.Length <> 0 Then
                strFilter += " and 年级like '"
                strFilter += txbThree.Text.Trim + "%'"
            End If
        Else
            If txbThree.Text.Trim.Length <> 0 Then
                strFilter += " and 年级like '"
                strFilter += txbThree.Text.Trim + "%'"
            End If
        End If
    End If
    '清空DataSet11
    DataSet11.Clear()

```

```

SqlConnection1.ConnectionString = DataBase.sConn
Dim strSQL As String
SqlDataAdapter1.SelectCommand.CommandText _
= "select * from 学生信息" + strFilter
' 根据查询条件重新填充DataSet11
SqlDataAdapter1.Fill(DataSet11)
dtData = DataSet11.Tables("学生信息")
If dtData.Columns.Count < 15 Then
    dtData.Columns.Add("班级")
    dtData.Columns.Add("政治面貌")
    dtData.Columns.Add("民族")
    dtData.Columns.Add("籍贯")
    dtData.Columns.Add("学籍")
End If
bmData = Me.BindingContext(DataSet11, "学生信息")
If bmData.Count <> 0 Then
    bmData.Position = 0
End If
End Sub
Public Overrides Sub SetDataGrid()
    LoadData()
    ' 定义一个DataGrid表样式
    Dim ts As New DataGridTableStyle
    Dim aColumnTextColumn As DataGridTextBoxColumn
    Dim numCols As Integer = dtData.Columns.Count
    Dim i As Integer
    For i = 0 To numCols - 1
        ' If i = 6 Then
        '     i = 10
        ' End If
        aColumnTextColumn = New DataGridTextBoxColumn
        aColumnTextColumn.MappingName = _
            dtData.Columns(i).ColumnName
        aColumnTextColumn.HeaderText = _
            dtData.Columns(i).ColumnName
        aColumnTextColumn.NullText = ""
        aColumnTextColumn.ReadOnly = True
        ' aColumnTextColumn.Width = 55
        ts.GridColumnStyles.Add(aColumnTextColumn)
    Next
    ts.AlternatingBackColor = Color.LightGray
    ts.AllowSorting = False
    ts.MappingName = dtData.TableName
    dgdList.TableStyles.Clear()

```

```

dgdList.TableStyles.Add(ts)
Dim dv As DataView = dtData.DefaultView
dv.AllowNew = False
dv.AllowDelete = False
' dv.AllowEdit = False
' 设置数据源
dgdList.DataSource = dtData.DefaultView
bmData = Me.BindingContext(DataSet11, "学生信息")
lblCount.Text = "记录数:" + dtData.Rows.Count.ToString()
SetDetailData()
End Sub
Private Sub SetDetailData()
    Dim dtClassId, dtPolity, dtNation, _
    dtBirthPlace, dtStatus As DataTable
    Dim db As DataBase = New DataBase
    dtClassId = db.RunSelectSQL _
    ("select 班级编号, 班级名称 from 班级信息 order by 班级名称
").Table
    dtPolity = db.RunSelectSQL _
    ("select 政治面貌编号, 政治面貌 from 政治面貌代码表").Table
    dtNation = db.RunSelectSQL _
    ("select 民族编号, 民族 from 民族代码表").Table
    dtBirthPlace = db.RunSelectSQL _
    ("select 籍贯编号, 籍贯 from 籍贯代码表").Table
    dtStatus = db.RunSelectSQL _
    ("select 学籍编号, 学籍名称 from 学籍代码表").Table
    Dim dv As DataView
    For i As Integer = 0 To dtData.Rows.Count - 1
        dv = dtClassId.DefaultView
        dv.RowFilter = "班级编号=' " + dtData.Rows(i)("班级编号")
+ " "

        dtData.Rows(i)("班级") = dv(0)(1)
        dv = dtPolity.DefaultView
        dv.RowFilter = "政治面貌编号=' " + dtData.Rows(i)("政治面
貌编号") + " "

        dtData.Rows(i)("政治面貌") = dv(0)(1)
        dv = dtNation.DefaultView
        dv.RowFilter = "民族编号=' " + dtData.Rows(i)("民族编号")
+ " "

        dtData.Rows(i)("民族") = dv(0)(1)
        dv = dtBirthPlace.DefaultView
        dv.RowFilter = "籍贯编号=' " + dtData.Rows(i)("籍贯编号")
+ " "

        dtData.Rows(i)("籍贯") = dv(0)(1)

```

```

        dv = dtStatus.DefaultView
        dv.RowFilter = "学籍编号=" + dtData.Rows(i)("学籍编号")
+ " "

        dtData.Rows(i)("学籍") = dv(0)(1)
    Next
End Sub

Public Overrides Sub SetTextBoxState(ByVal bState As Boolean)
    Me.GroupBox1.Enabled = Not bState
End Sub

Public Overrides Sub Clear()
    Me.txbClassId.Text = ""
    Me.txbGrade.Text = ""
    Me.txbName.Text = ""
    Me.txbPID.Text = ""
    Me.cbbBirthPlace.Text = ""
    Me.cbbClassId.Text = ""
    Me.cbbNation.Text = ""
    Me.cbbPolity.Text = ""
    Me.cbbSex.Text = ""
    Me.cbbStatus.Text = ""
End Sub

Public Overrides Sub SaveForAdd()
    Dim dr As DataRow = DataSet11.Tables("学生信息").NewRow()
    Try
        dr("学号") = Me.txbClassId.Text.Trim
        dr("姓名") = Me.txbName.Text.Trim
        dr("年级") = Me.txbGrade.Text.Trim
        dr("性别") = Me.cbbSex.Text.Trim
        dr("年级") = Me.txbGrade.Text.Trim
        dr("身份证号") = Me.txbPID.Text.Trim
        dr("政治面貌编号") = Me.cbbPolity.SelectedValue
        dr("民族编号") = Me.cbbNation.SelectedValue
        dr("籍贯编号") = Me.cbbBirthPlace.SelectedValue
        dr("班级编号") = Me.cbbClassId.SelectedValue
        dr("学籍编号") = Me.cbbStatus.SelectedValue
    Catch ex As Exception
        MessageBox.Show("数据格式不正确!")
    Return
End Try

Try
    DataSet11.Tables("学生信息").Rows.Add(dr)
    If Me.DataSet11.HasChanges = True Then
        SqlDataAdapter1.Update(DataSet11)
    End If
End Try

```



```

        Catch ex As Exception
            MessageBox.Show(ex.ToString) ' ("数据添加失败!")
        End Try
        LoadData()
        dgdList.DataSource = dtData.DefaultView
    End Sub

    Public Overrides Sub DeleteData()
        Try
            ' 删除当前行的数据
            DataSet11.Tables("学生信息"). _
                Rows(bmData.Position).Delete()
            If Me.DataSet11.HasChanges = True Then
                ' 更新DataSet11
                SqlDataAdapter1.Update(DataSet11)
            End If
        Catch ex As Exception
            MessageBox.Show("数据删除失败!")
        End Try
    End Sub

    Public Overrides Sub SaveForUpdate()
        Try
            Dim row As Integer
            row = dgdList.CurrentCell.RowIndex
            dgdList.CurrentCell = _
                New DataGridViewCell((row + 1) Mod bmData.Count, 0)
            ' 判断是否有更新的数据
            If Me.DataSet11.HasChanges = True Then
                SqlDataAdapter1.Update(DataSet11)
            End If
        Catch ex As Exception
            MessageBox.Show("数据修改失败!")
        End Try
    End Sub

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

        End Sub
    End Class

```

### 5.3 课程信息维护

| 课程编号 | 课程名称          | 课程简称   | 拼音码 | 本学期课程 | 教师   | 开课系别 | 学分 |
|------|---------------|--------|-----|-------|------|------|----|
| 1    | 政治经济学 (政治经济学) | zzjjx  | Y   | 教师1   | 人文学院 | 2    |    |
| 2    | 经济数学基         | jjsxje | Y   | 教师2   | 计算机系 | 3    |    |
| 3    | 基础会计学         | ickix  | Y   | 教师3   | 人文学院 | 2    |    |

实现的功能包括： 查看首记录：表中首个班级记录，上记录， 下记录， 查看尾记录，新增，修改，删除等  
可实现模糊搜索功能  
如下所示：

| 课程编号 | 课程名称     | 课程简称  | 拼音码 | 本学期课程 | 教师   | 开课系别 | 学分 |
|------|----------|-------|-----|-------|------|------|----|
| 10   | 审计学原理    | sjxyl | Y   | 教师10  | 人文学院 | 4    |    |
| 100  | 英语听力 (4) | yytl  | N   | 教师100 | 外语系  | 4    |    |
| 101  | 英语口语 (1) | yyky  | Y   | 教师101 | 外语系  | 2    |    |

```
Public Class frmSelect
    Inherits System.Windows.Forms.Form
    Private dtData As DataTable
    Private dtSubject As DataTable

    Private Sub btnSearch_Click(ByVal sender As System.Object, _
        ByVal e As System.EventArgs) Handles btnSearch.Click
```

```

        SetDGDSubject()
    End Sub

Private Sub btnSelect_Click(ByVal sender As System.Object, _
    ByVal e As System.EventArgs) Handles btnSelect.Click
    If dgdList.CurrentRowNumber = -1 Or _
        dgdSubject.CurrentRowNumber = -1 Then
        Exit Sub
    End If
    Dim db As DataBase = New DataBase
    Dim dv As DataView
    Dim strSQL As String = ""
    Dim strTmp As String = dtSubject. _
        Rows(dgdSubject.CurrentRowNumber)(1).ToString.Trim()
    strSQL = "select * from 选课表where 学号='" + txbId.Text.Trim
    strSQL += "' and 课序号in(select 课序号from 课程表where 课程
    编号='"
    strSQL += strTmp + "')"
    dv = db.RunSelectSQL(strSQL)
    If dv.Count <> 0 Then
        MessageBox.Show("该课程已经选择!")
        db.Dispose()
        Exit Sub
    End If
    Dim strCId As String = dtSubject. _
        Rows(dgdSubject.CurrentRowNumber)(0).ToString.Trim()
    strSQL = "select * from 选课表as a, 课程表as b "
    strSQL += "where a.课序号=b.课序号and a.学号='"
    strSQL += txbId.Text.Trim + "' and 100*b.上课时间天+"
    strSQL += "b.上课时间节in (select 100*上课时间天+上课时间节"
    strSQL += " from 课程表where 课序号='" + strCId + "')"
    dv = db.RunSelectSQL(strSQL)
    If dv.Count <> 0 Then
        MessageBox.Show("该课序号时间和已经选择的课程冲突!")
        Exit Sub
    Else
        strSQL = "insert into 选课表(学号, 课序号) values(' "
        strSQL += txbId.Text.Trim + "', '" + strCId + " ')"
        db.RunDelOrInsSQL(strSQL)
        strSQL = "select c.学号, a.课序号, b.课程名称, b.教师, b.开课
        系别,"
        strSQL += "a.上课时间天, a.上课时间节, a.上课地点from 选课
        表"
        strSQL += "as c, 课程表as a, 课程信息as b where "
    
```

```

        strSQL += "a. 课程编号=b. 课程编号and c. 课序号=a. 课序号and
学号=' "

        strSQL += txbId.Text.Trim + "' order by a. 课序号"
        dv = db.RunSelectSQL(strSQL)
        dv.AllowDelete = False
        dv.AllowEdit = False
        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
    db.Dispose()
End Sub

Private Sub btnDel_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnDel.Click
    If Me.dgdList.CurrentCell.RowIndex = -1 Then
        Exit Sub
    End If
    Dim dlgResult As DialogResult = MessageBox. _
Show("确定删除指定的已选课程吗?", "提示", _
MessageBoxButtons.YesNo)
    If dlgResult = DialogResult.Yes Then
        Dim strCId As String = dtData. _
Rows(dgdList.CurrentCell.RowIndex) (1).ToString.Trim()
        Dim strSQL As String = "delete from 选课表where 学号=' "
        strSQL += Me.txbId.Text.Trim
        strSQL += "' and 课序号= '" + strCId + "' "
        Dim db As DataBase = New DataBase
        db.RunDelOrInsSQL(strSQL)
        Dim dv As DataView
        strSQL = "select c. 学号,a. 课序号,b. 课程名称,b. 教师,b. 开课
系别,"
        strSQL += "a. 上课时间天,a. 上课时间节,a. 上课地点from 选课
表"
        strSQL += "as c, 课程表as a, 课程信息as b where "
        strSQL += "a. 课程编号=b. 课程编号and c. 课序号=a. 课序号"
        strSQL += "and 学号=' " + txbId.Text.Trim + "' order by a.
课序号"

        dv = db.RunSelectSQL(strSQL)
        dv.AllowDelete = False
        dv.AllowEdit = False
        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
End Sub

```

```

        db.Dispose()
    End If
End Sub

Private Sub btnDisplay_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnDisplay.Click
    Dim dlgChild As frmCourse = New frmCourse
    dlgChild.Show()
End Sub

Private Sub txtId_KeyDown(ByVal sender As Object, _
ByVal e As System.Windows.Forms.KeyEventArgs) Handles
txtId.KeyDown
    If e.KeyCode = Keys.Enter And txtId.Text.Trim.Length <> 0 Then
        Dim db As DataBase = New DataBase
        Dim strSQL As String = ""
        strSQL = "select 姓名, 班级名称, 学籍编号from 学生信息as
a,"
        strSQL += " 班级信息as b where a. 班级编号=b. 班级编号"
        strSQL += "and 学号='" + Me.txtId.Text.Trim + "'"
        Dim dv As DataView = db.RunSelectSQL(strSQL)
        If dv.Count = 0 Then
            MessageBox.Show("不是在籍的学生")
            Me.txtId.Text = ""
        Else
            Me.txtName.Text = dv(0)(0).ToString.Trim
            Me.txtGrade.Text = dv(0)(1).ToString.Trim
        End If
        strSQL = "select c. 学号,a. 课序号,b. 课程名称,b. 教师,b. 开课
系别,"
        strSQL += "a. 上课时间天,a. 上课时间节,a. 上课地点from 选课
表"
        strSQL += "as c, 课程表as a, 课程信息as b where a. 课程编
号"
        strSQL += "=b. 课程编号and c. 课序号=a. 课序号and 学号='"
        strSQL += txtId.Text.Trim
        strSQL += "' order by a. 课序号"
        dv = db.RunSelectSQL(strSQL)
        If dv.Count = 0 Then
            MessageBox.Show("不是在籍的学生")
            Me.txtId.Text = ""
        Else
            dv.AllowDelete = False
            dv.AllowEdit = False

```

```

        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
    db.Dispose()
End If
End Sub

Private Sub txbPY_KeyDown(ByVal sender As Object, _
    ByVal e As System.Windows.Forms.KeyEventArgs) Handles
txbPY.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub SetDGDSubject()
    ' 根据查询条件组合SQL语句
    Dim strSQL As String = "select a. 课序号,b. 课程编号,b. 课程名
称,b. 教师,"
    strSQL += "b. 开课系别,a. 上课时间天,a. 上课时间节,a. 上课地点
from 课程表"
    strSQL += " as a, 课程信息as b where a. 课程编号=b. 课程编号"
    Dim strFilter As String = ""
    If Me.txbPY.Text.Trim.Length <> 0 Then
        strFilter += " and 拼音码like '" + Me.txbPY.Text.Trim +
"%'"
    End If
    If Me.txbCName.Text.Trim.Length <> 0 Then
        strFilter += " and 课程名称like '" + Me.txbCName.Text.Trim
+ "%'"
    End If
    If Me.txbCId.Text.Trim.Length <> 0 Then
        strFilter += " and b. 课程编号like '" + Me.txbCId.Text.Trim
+ "%'"
    End If
    If Me.txbCNumber.Text.Trim.Length <> 0 Then
        strFilter += " and 课序号like '" + Me.txbCNumber.Text.Trim
+ "%'"
    End If
    If strFilter.Trim.Length = 0 Then
        Exit Sub
    End If
    strSQL += " order by 课序号"
    ' 执行SQL语句

```

```

    Dim db As DataBase = New DataBase
    Dim dv As DataView = db.RunSelectSQL(strSQL + strFilter)
    dv.AllowDelete = False
    dv.AllowEdit = False
    dv.AllowNew = False
    Me.dgdSubject.AllowSorting = False
    dtSubject = dv.Table
    ' 设置数据源
    Me.dgdSubject.DataSource = dtSubject
    db.Dispose()
End Sub

Private Sub txbCName_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCName.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub txbCNumber_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCNumber.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub txbCId_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCId.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

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

End Sub
End Class

```

## 6. 教学管理

### 6.1 学生选课

**学生选课**

学生信息

学号  姓名  班级

这里输入学号后回车，正常操作是学生用自己的学号登陆到系统，只能选择自己的课程。因为系统没有制作登陆功能，所以这么处理。

已选课程

课程信息

课程拼音  课程名称  查询 选课 删除 显示课表

课程编号  课序号

选择相应的课程序号，单击【选课】按钮，系统先检查该课程编号是否已选或上课时间是否冲突，注意一个课程编号可以对应多个课序号，既一门课在多个时间上的情况。

可实现的功能：课程的查询，选课，删除，显示课表等  
查询功能实现如下所示：

**学生选课**

学生信息

学号  姓名  班级

这里输入学号后回车，正常操作是学生用自己的学号登陆到系统，只能选择自己的课程。因为系统没有制作登陆功能，所以这么处理。

已选课程

|   | 学号          | 课序号       | 课程名称 | 教师    | 开课系别 | 上课时间天 | 上课时间节 | 上课地点   |
|---|-------------|-----------|------|-------|------|-------|-------|--------|
|   | 20021340000 | 200400163 | 妇产科学 | 教师163 | 医学院  | 4     | 3     | 三教2003 |
| ▶ | 20021340000 | 200400169 | 毕业作业 | 教师169 | 医学院  | 5     | 3     | 三教2009 |
|   | 20021340000 | 200400169 | 毕业作业 | 教师169 | 医学院  | 2     | 5     | 三教2009 |

课程信息

课程拼音  课程名称  查询 选课 删除 显示课表

课程编号  课序号

选择相应的课程序号，单击【选课】按钮，系统先检查该课程编号是否已选或上课时间是否冲突，注意一个课程编号可以对应多个课序号，既一门课在多个时间上的情况。

|   | 课序号       | 课程编号 | 课程名称   | 教师    | 开课系别 | 上课时间天 | 上课时间节 | 上课地点   |
|---|-----------|------|--------|-------|------|-------|-------|--------|
|   | 200400022 | 22   | 毕业作业 ( | 教师22  | 人文学院 | 3     | 7     | 一教2002 |
|   | 200400169 | 169  | 毕业作业   | 教师169 | 医学院  | 5     | 3     | 三教2009 |
| ▶ | 200400169 | 169  | 毕业作业   | 教师169 | 医学院  | 2     | 5     | 三教2009 |

```
Public Class frmSelect
    Inherits System.Windows.Forms.Form
    Private dtData As DataTable
    Private dtSubject As DataTable
    Private Sub btnSearch_Click(ByVal sender As System.Object, _
        ByVal e As System.EventArgs) Handles btnSearch.Click
```



```

        SetDGDSubject()
    End Sub

    Private Sub btnSelect_Click(ByVal sender As System.Object, _
        ByVal e As System.EventArgs) Handles btnSelect.Click
        If dgdList.CurrentRowNumber = -1 Or _
            dgdSubject.CurrentRowNumber = -1 Then
            Exit Sub
        End If
        Dim db As DataBase = New DataBase
        Dim dv As DataView
        Dim strSQL As String = ""
        Dim strTmp As String = dtSubject. _
            Rows(dgdSubject.CurrentRowNumber)(1).ToString.Trim()
        strSQL = "select * from 选课表where 学号='" + txbId.Text.Trim
        strSQL += "' and 课序号in(select 课序号from 课程表where 课程
        编号='"
        strSQL += strTmp + "')"
        dv = db.RunSelectSQL(strSQL)
        If dv.Count <> 0 Then
            MessageBox.Show("该课程已经选择！")
            db.Dispose()
            Exit Sub
        End If
        Dim strCId As String = dtSubject. _
            Rows(dgdSubject.CurrentRowNumber)(0).ToString.Trim()
        strSQL = "select * from 选课表as a, 课程表as b "
        strSQL += "where a.课序号=b.课序号and a.学号='"
        strSQL += txbId.Text.Trim + "' and 100*b.上课时间天+"
        strSQL += "b.上课时间节in (select 100*上课时间天+上课时间节"
        strSQL += " from 课程表where 课序号='" + strCId + "')"
        dv = db.RunSelectSQL(strSQL)
        If dv.Count <> 0 Then
            MessageBox.Show("该课序号时间和已经选择的课程冲突！")
            Exit Sub
        Else
            strSQL = "insert into 选课表(学号, 课序号) values(' "
            strSQL += txbId.Text.Trim + "', '" + strCId + " ')"
            db.RunDelOrInsSQL(strSQL)
            strSQL = "select c.学号, a.课序号, b.课程名称, b.教师, b.开课
            系别,"
            strSQL += "a.上课时间天, a.上课时间节, a.上课地点from 选课
            表"
            strSQL += "as c, 课程表as a, 课程信息as b where "

```

```

        strSQL += "a. 课程编号=b. 课程编号and c. 课序号=a. 课序号and
学号=' "

        strSQL += txbId.Text.Trim + "' order by a. 课序号"
        dv = db.RunSelectSQL(strSQL)
        dv.AllowDelete = False
        dv.AllowEdit = False
        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
    db.Dispose()
End Sub

Private Sub btnDel_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnDel.Click
    If Me.dgdList.CurrentCell.RowIndex = -1 Then
        Exit Sub
    End If
    Dim dlgResult As DialogResult = MessageBox. _
Show("确定删除指定的已选课程吗?", "提示", _
MessageBoxButtons.YesNo)
    If dlgResult = DialogResult.Yes Then
        Dim strCId As String = dtData. _
Rows(dgdList.CurrentCell.RowIndex) (1).ToString.Trim()
        Dim strSQL As String = "delete from 选课表where 学号=' "
        strSQL += Me.txbId.Text.Trim
        strSQL += "' and 课序号= '" + strCId + "' "
        Dim db As DataBase = New DataBase
        db.RunDelOrInsSQL(strSQL)
        Dim dv As DataView
        strSQL = "select c. 学号,a. 课序号,b. 课程名称,b. 教师,b. 开课
系别,"
        strSQL += "a. 上课时间天,a. 上课时间节,a. 上课地点from 选课
表"
        strSQL += "as c, 课程表as a, 课程信息as b where "
        strSQL += "a. 课程编号=b. 课程编号and c. 课序号=a. 课序号"
        strSQL += "and 学号=' " + txbId.Text.Trim + "' order by a.
课序号"

        dv = db.RunSelectSQL(strSQL)
        dv.AllowDelete = False
        dv.AllowEdit = False
        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
End Sub

```

```

        db.Dispose()
    End If
End Sub

Private Sub btnDisplay_Click(ByVal sender As System.Object, _
    ByVal e As System.EventArgs) Handles btnDisplay.Click
    Dim dlgChild As frmCourse = New frmCourse
    dlgChild.Show()
End Sub

Private Sub txtId_KeyDown(ByVal sender As Object, _
    ByVal e As System.Windows.Forms.KeyEventArgs) Handles
txtId.KeyDown
    If e.KeyCode = Keys.Enter And txtId.Text.Trim.Length <> 0 Then
        Dim db As DataBase = New DataBase
        Dim strSQL As String = ""
        strSQL = "select 姓名, 班级名称, 学籍编号from 学生信息as
a,"
        strSQL += " 班级信息as b where a. 班级编号=b. 班级编号"
        strSQL += "and 学号='" + Me.txtId.Text.Trim + "'"
        Dim dv As DataView = db.RunSelectSQL(strSQL)
        If dv.Count = 0 Then
            MessageBox.Show("不是在籍的学生")
            Me.txtId.Text = ""
        Else
            Me.txtName.Text = dv(0)(0).ToString.Trim
            Me.txtGrade.Text = dv(0)(1).ToString.Trim
        End If
        strSQL = "select c. 学号,a. 课序号,b. 课程名称,b. 教师,b. 开课
系别,"
        strSQL += "a. 上课时间天,a. 上课时间节,a. 上课地点from 选课
表"
        strSQL += "as c, 课程表as a, 课程信息as b where a. 课程编
号"
        strSQL += "=b. 课程编号and c. 课序号=a. 课序号and 学号='"
        strSQL += txtId.Text.Trim
        strSQL += "' order by a. 课序号"
        dv = db.RunSelectSQL(strSQL)
        If dv.Count = 0 Then
            MessageBox.Show("不是在籍的学生")
            Me.txtId.Text = ""
        Else
            dv.AllowDelete = False
            dv.AllowEdit = False

```

```

        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dtData
    End If
    db.Dispose()
End If
End Sub

Private Sub txbPY_KeyDown(ByVal sender As Object, _
    ByVal e As System.Windows.Forms.KeyEventArgs) Handles
txbPY.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub SetDGDSubject()
    ' 根据查询条件组合SQL语句
    Dim strSQL As String = "select a.课序号,b.课程编号,b.课程名
称,b.教师,"
    strSQL += "b.开课系别,a.上课时间天,a.上课时间节,a.上课地点
from 课程表"
    strSQL += " as a, 课程信息as b where a.课程编号=b.课程编号"
    Dim strFilter As String = ""
    If Me.txbPY.Text.Trim.Length <> 0 Then
        strFilter += " and 拼音码like '" + Me.txbPY.Text.Trim +
"%'"
    End If
    If Me.txbCName.Text.Trim.Length <> 0 Then
        strFilter += " and 课程名称like '" + Me.txbCName.Text.Trim
+ "%'"
    End If
    If Me.txbCId.Text.Trim.Length <> 0 Then
        strFilter += " and b.课程编号like '" + Me.txbCId.Text.Trim
+ "%'"
    End If
    If Me.txbCNumber.Text.Trim.Length <> 0 Then
        strFilter += " and 课序号like '" + Me.txbCNumber.Text.Trim
+ "%'"
    End If
    If strFilter.Trim.Length = 0 Then
        Exit Sub
    End If
    strSQL += " order by 课序号"
    ' 执行SQL语句

```

```

    Dim db As DataBase = New DataBase
    Dim dv As DataView = db.RunSelectSQL(strSQL + strFilter)
    dv.AllowDelete = False
    dv.AllowEdit = False
    dv.AllowNew = False
    Me.dgdSubject.AllowSorting = False
    dtSubject = dv.Table
    ' 设置数据源
    Me.dgdSubject.DataSource = dtSubject
    db.Dispose()
End Sub

Private Sub txbCName_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCName.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub txbCNumber_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCNumber.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

Private Sub txbCId_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbCId.KeyDown
    If e.KeyCode = Keys.Enter Then
        SetDGDSubject()
    End If
End Sub

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

End Sub
End Class

```

## 6.2 课表查询



输入学生学号即可查询该生课表：  
示例如下：



### 6.3 成绩输入

**成绩输入**

结束选课，生成空成绩单

终止选课，生成空成绩单

应该单独有一个终止选课的功能，终止选课后生成空的成绩单，所有学生将不允许更改课程信息，如果需要更改，必须单独申请，特殊处理。终止选课一学年应该只能进行一次操作。读者需要注意实例没有制作开始选课等功能，终止选课在学生选课中仍然可以更改选择的课程。

选择课程

课程拼音  课程名称

课程编号  查询 最终提交

这里选择一门课程，查询出该课程所有的学生，并输入成绩。实际应用时不用选择课程，而是根据登陆系统的老师的编号，自动列出该老师所有课程，老师只能对自己的课程进行成绩的输入的操作；最终提交是老师提交的成绩，提交后的成绩将不可以修改。

课程成绩输入

成绩

修改成绩

输入课程拼音：zgms，运行结果如下：

**EIS教务管理系统 - [成绩输入]**

基础维护 (M) 教学管理 (X) 报表统计 (Y) 退出系统 (Z)

结束选课，生成空成绩单

终止选课，生成空成绩单

应该单独有一个终止选课的功能，终止选课后生成空的成绩单，所有学生将不允许更改课程信息，如果需要更改，必须单独申请，特殊处理。终止选课一学年应该只能进行一次操作。读者需要注意实例没有制作开始选课等功能，终止选课在学生选课中仍然可以更改选择的课程。

选择课程

课程拼音 zgms 课程名称

课程编号  查询 最终提交

这里选择一门课程，查询出该课程所有的学生，并输入成绩。实际应用时不用选择课程，而是根据登陆系统的老师的编号，自动列出该老师所有课程，老师只能对自己的课程进行成绩的输入的操作；最终提交是老师提交的成绩，提交后的成绩将不可以修改。

课程成绩输入

|   | 课程名称  | 学号          | 姓名 | 成绩 | 编号  | 课程编号 |
|---|-------|-------------|----|----|-----|------|
| ▶ | 中国革命史 | 20021340000 | 陈剑 | 93 | 962 | 38   |

成绩 98

修改成绩

详细代码如下：

```
Public Class frmScore
    Inherits System.Windows.Forms.Form
    Private dtData As DataTable
    #Region " Windows 窗体设计器生成的代码"
```

```
Public Sub New()
    MyBase.New()
```

```
’ 该调用是Windows 窗体设计器所必需的。
InitializeComponent()
```

```
’ 在InitializeComponent() 调用之后添加任何初始化
```

End Sub

'窗体重写dispose 以清理组件列表。

Protected Overloads Overrides Sub Dispose(ByVal disposing As Boolean)

    If disposing Then

        If Not (components Is Nothing) Then

            components.Dispose()

        End If

    End If

    MyBase.Dispose(disposing)

End Sub

'Windows 窗体设计器所必需的

Private components As System.ComponentModel.IContainer

'注意：以下过程是Windows 窗体设计器所必需的

'可以使用Windows 窗体设计器修改此过程。

'不要使用代码编辑器修改它。

Friend WithEvents GroupBox1 As System.Windows.Forms.GroupBox

Friend WithEvents Label1 As System.Windows.Forms.Label

Friend WithEvents GroupBox2 As System.Windows.Forms.GroupBox

Friend WithEvents Label2 As System.Windows.Forms.Label

Friend WithEvents Label3 As System.Windows.Forms.Label

Friend WithEvents Label4 As System.Windows.Forms.Label

Friend WithEvents Label5 As System.Windows.Forms.Label

Friend WithEvents GroupBox3 As System.Windows.Forms.GroupBox

Friend WithEvents btnClear As System.Windows.Forms.Button

Friend WithEvents dgdList As System.Windows.Forms.DataGrid

Friend WithEvents Label6 As System.Windows.Forms.Label

Friend WithEvents txbPY As System.Windows.Forms.TextBox

Friend WithEvents txbName As System.Windows.Forms.TextBox

Friend WithEvents txbId As System.Windows.Forms.TextBox

Friend WithEvents btnSearch As System.Windows.Forms.Button

Friend WithEvents btnSubmit As System.Windows.Forms.Button

Friend WithEvents txbScore As System.Windows.Forms.TextBox

Friend WithEvents btnUpdate As System.Windows.Forms.Button

<System.Diagnostics.DebuggerStepThrough()> Private Sub

InitializeComponent()

    Dim resources As System.Resources.ResourceManager = New  
System.Resources.ResourceManager(GetType(frmScore))

    Me.GroupBox1 = New System.Windows.Forms.GroupBox

    Me.Label1 = New System.Windows.Forms.Label

    Me.btnClear = New System.Windows.Forms.Button



```

Me.GroupBox2 = New System.Windows.Forms.GroupBox
Me.btnSubmit = New System.Windows.Forms.Button
Me.btnSearch = New System.Windows.Forms.Button
Me.txblId = New System.Windows.Forms.TextBox
Me.txblName = New System.Windows.Forms.TextBox
Me.Label5 = New System.Windows.Forms.Label
Me.Label4 = New System.Windows.Forms.Label
Me.Label3 = New System.Windows.Forms.Label
Me.Label2 = New System.Windows.Forms.Label
Me.txblPY = New System.Windows.Forms.TextBox
Me.GroupBox3 = New System.Windows.Forms.GroupBox
Me.btnUpdate = New System.Windows.Forms.Button
Me.Label6 = New System.Windows.Forms.Label
Me.txblScore = New System.Windows.Forms.TextBox
Me.dgdList = New System.Windows.Forms.DataGrid
Me.GroupBox1.SuspendLayout()
Me.GroupBox2.SuspendLayout()
Me.GroupBox3.SuspendLayout()
CType(Me.dgdList,
System.ComponentModel.ISupportInitialize).BeginInit()
Me.SuspendLayout()
,
'GroupBox1
,

Me.GroupBox1.Controls.Add(Me.Label1)
Me.GroupBox1.Controls.Add(Me.btnCancel)
Me.GroupBox1.Dock = System.Windows.Forms.DockStyle.Top
Me.GroupBox1.Location = New System.Drawing.Point(0, 0)
Me.GroupBox1.Name = "GroupBox1"
Me.GroupBox1.Size = New System.Drawing.Size(664, 88)
Me.GroupBox1.TabIndex = 0
Me.GroupBox1.TabStop = False
Me.GroupBox1.Text = "结束选课，生成空成绩单"
,
'Label1
,

Me.Label1.Location = New System.Drawing.Point(200, 8)
Me.Label1.Name = "Label1"
Me.Label1.Size = New System.Drawing.Size(360, 72)
Me.Label1.TabIndex = 1
Me.Label1.Text = "应该单独有一个终止选课的功能，终止选课后生
成空的成绩单，所有学生将不允许更改课程信息，如果需要更改，必须单独申
请，特殊处理。终止选课一学年应该只能进行一次操作。读" & _
"者需要注意实例没有制作开始选课等功能，终止选课后在学生选课中

```

仍然可以更改选择的课程。”

```
,  
  
'btnClear  
,  
  
Me.btnClear.Location = New System.Drawing.Point(8, 32)  
Me.btnClear.Name = "btnClear"  
Me.btnClear.Size = New System.Drawing.Size(152, 23)  
Me.btnClear.TabIndex = 0  
Me.btnClear.Text = "终止选课，生成空成绩单"  
,  
  
'GroupBox2  
,  
  
Me.GroupBox2.Controls.Add(Me.btnSubmit)  
Me.GroupBox2.Controls.Add(Me.btnSearch)  
Me.GroupBox2.Controls.Add(Me.txbId)  
Me.GroupBox2.Controls.Add(Me.txbName)  
Me.GroupBox2.Controls.Add(Me.Label15)  
Me.GroupBox2.Controls.Add(Me.Label14)  
Me.GroupBox2.Controls.Add(Me.Label13)  
Me.GroupBox2.Controls.Add(Me.Label12)  
Me.GroupBox2.Controls.Add(Me.txbPY)  
Me.GroupBox2.Dock = System.Windows.Forms.DockStyle.Top  
Me.GroupBox2.Location = New System.Drawing.Point(0, 88)  
Me.GroupBox2.Name = "GroupBox2"  
Me.GroupBox2.Size = New System.Drawing.Size(664, 88)  
Me.GroupBox2.TabIndex = 1  
Me.GroupBox2.TabStop = False  
Me.GroupBox2.Text = "选择课程"  
,  
  
'btnSubmit  
,  
  
Me.btnSubmit.Location = New System.Drawing.Point(208, 48)  
Me.btnSubmit.Name = "btnSubmit"  
Me.btnSubmit.Size = New System.Drawing.Size(64, 23)  
Me.btnSubmit.TabIndex = 8  
Me.btnSubmit.Text = "最终提交"  
,  
  
'btnSearch  
,  
  
Me.btnSearch.Location = New System.Drawing.Point(144, 48)  
Me.btnSearch.Name = "btnSearch"  
Me.btnSearch.Size = New System.Drawing.Size(56, 23)  
Me.btnSearch.TabIndex = 7  
Me.btnSearch.Text = "查询"
```

```
,
' txbId
,

Me.txbId.Location = New System.Drawing.Point(64, 50)
Me.txbId.Name = "txbId"
Me.txbId.Size = New System.Drawing.Size(64, 21)
Me.txbId.TabIndex = 6
Me.txbId.Text = ""
,

' txbName
,

Me.txbName.Location = New System.Drawing.Point(201, 19)
Me.txbName.Name = "txbName"
Me.txbName.Size = New System.Drawing.Size(64, 21)
Me.txbName.TabIndex = 5
Me.txbName.Text = ""
,

' Label15
,

Me.Label15.Location = New System.Drawing.Point(144, 24)
Me.Label15.Name = "Label15"
Me.Label15.Size = New System.Drawing.Size(56, 16)
Me.Label15.TabIndex = 3
Me.Label15.Text = "课程名称"
,

' Label14
,

Me.Label14.Location = New System.Drawing.Point(8, 56)
Me.Label14.Name = "Label14"
Me.Label14.Size = New System.Drawing.Size(56, 16)
Me.Label14.TabIndex = 2
Me.Label14.Text = "课程编号"
,

' Label13
,

Me.Label13.Location = New System.Drawing.Point(8, 24)
Me.Label13.Name = "Label13"
Me.Label13.Size = New System.Drawing.Size(56, 16)
Me.Label13.TabIndex = 1
Me.Label13.Text = "课程拼音"
,

' Label12
,

Me.Label12.Location = New System.Drawing.Point(288, 16)
```

```
Me.Label2.Name = "Label2"
Me.Label2.Size = New System.Drawing.Size(368, 64)
Me.Label2.TabIndex = 0
Me.Label2.Text = "这里选择一门课程，查询出该课程所有的学生，
并输入成绩。实际应用时不用选择课程，而是根据登陆系统的老师的编号，
自动列出该老师所有课程，老师只能对自己的课程进行成绩” & _
”的输入的操作；最终提交是老师提交的成绩，提交后的成绩将不可以
修改。”
```

```
,
' txbPY
,

Me.txbPY.Location = New System.Drawing.Point(64, 19)
Me.txbPY.Name = "txbPY"
Me.txbPY.Size = New System.Drawing.Size(64, 21)
Me.txbPY.TabIndex = 4
Me.txbPY.Text = ""
,

' GroupBox3
,

Me.GroupBox3.Controls.Add(Me.btnUpdate)
Me.GroupBox3.Controls.Add(Me.Label6)
Me.GroupBox3.Controls.Add(Me.txbScore)
Me.GroupBox3.Controls.Add(Me.dgdList)
Me.GroupBox3.Dock = System.Windows.Forms.DockStyle.Fill
Me.GroupBox3.Location = New System.Drawing.Point(0, 176)
Me.GroupBox3.Name = "GroupBox3"
Me.GroupBox3.Size = New System.Drawing.Size(664, 149)
Me.GroupBox3.TabIndex = 2
Me.GroupBox3.TabStop = False
Me.GroupBox3.Text = "课程成绩输入"
,

' btnUpdate
,

Me.btnUpdate.Location = New System.Drawing.Point(568, 80)
Me.btnUpdate.Name = "btnUpdate"
Me.btnUpdate.Size = New System.Drawing.Size(64, 23)
Me.btnUpdate.TabIndex = 8
Me.btnUpdate.Text = "修改成绩"
,

' Label6
,

Me.Label6.Location = New System.Drawing.Point(536, 45)
Me.Label6.Name = "Label6"
Me.Label6.Size = New System.Drawing.Size(32, 16)
```

```

Me.Label16.TabIndex = 5
Me.Label16.Text = "成绩"
,
' txbScore
,

Me.txbScore.Location = New System.Drawing.Point(568, 40)
Me.txbScore.Name = "txbScore"
Me.txbScore.Size = New System.Drawing.Size(64, 21)
Me.txbScore.TabIndex = 6
Me.txbScore.Text = ""
,
' dgdList
,

Me.dgdList.Anchor =
CType(((System.Windows.Forms.AnchorStyles.Top Or
System.Windows.Forms.AnchorStyles.Bottom) _
Or System.Windows.Forms.AnchorStyles.Left),
System.Windows.Forms.AnchorStyles)
Me.dgdList.CaptionVisible = False
Me.dgdList.DataMember = ""
Me.dgdList.HeaderForeColor =
System.Drawing.SystemColors.ControlText
Me.dgdList.Location = New System.Drawing.Point(8, 16)
Me.dgdList.Name = "dgdList"
Me.dgdList.Size = New System.Drawing.Size(520, 128)
Me.dgdList.TabIndex = 0
,
' frmScore
,

Me.AutoScaleBaseSize = New System.Drawing.Size(6, 14)
Me.ClientSize = New System.Drawing.Size(664, 325)
Me.Controls.Add(Me.GroupBox3)
Me.Controls.Add(Me.GroupBox2)
Me.Controls.Add(Me.GroupBox1)
Me.Icon = CType(resources.GetObject("$this.Icon"),
System.Drawing.Icon)
Me.Name = "frmScore"
Me.Text = "成绩输入"
Me.GroupBox1.ResumeLayout(False)
Me.GroupBox2.ResumeLayout(False)
Me.GroupBox3.ResumeLayout(False)
CType(Me.dgdList,
System.ComponentModel.ISupportInitialize).EndInit()
Me.ResumeLayout(False)

```

End Sub

#End Region

```
Private Sub btnClear_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnClear.Click
    Dim db As DataBase = New DataBase
    db.RunDelOrInsSQL("exec sf_终止选课")
    db.Dispose()
End Sub
Private Sub SetDGDLList()
    Dim strSQL As String = "select b. 课程名称, a. 学号, c. 姓名, a. 成
绩,"
    strSQL += " a. 编号, a. 课程编号 from 成绩表as a, 课程信息as b,
"
    strSQL += "学生信息as c where a. 课程编号=b. 课程编号and a. 学号
"

    strSQL += "=c. 学号and 是否已确定成绩= 'N' "
    Dim strFilter As String = ""
    If Me.txbPY.Text.Trim.Length <> 0 Then
        strFilter += " and 拼音码like '" + txbPY.Text.Trim + "%' "
    End If
    If Me.txbName.Text.Trim.Length <> 0 Then
        strFilter += " and a. 学号like '" + txbId.Text.Trim + "%' "
    End If
    If Me.txbName.Text.Trim.Length <> 0 Then
        strFilter += " and c. 姓名like '" + txbName.Text + "%' "
    End If
    If strFilter.Trim.Length = 0 Then
        Exit Sub
    Else
        strFilter += " order by b. 课程名称, a. 学号"
        Dim db As DataBase = New DataBase
        Dim dv As DataView = db.RunSelectSQL(strSQL + strFilter)
        dv.AllowDelete = False
        dv.AllowEdit = False
        dv.AllowNew = False
        dtData = dv.Table
        Me.dgdList.DataSource = dv
        Me.dgdList.AllowSorting = False
        db.Dispose()
    End If
End Sub
```

```

    Private Sub txbId_KeyDown(ByVal sender As Object, _
        ByVal e As System.Windows.Forms.KeyEventArgs) Handles
txbId.KeyDown
        If e.KeyCode = Keys.Enter Then
            SetDGDLList()
        End If
    End Sub

    Private Sub txbName_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbName.KeyDown
        If e.KeyCode = Keys.Enter Then
            SetDGDLList()
        End If
    End Sub

    Private Sub txbPY_KeyDown(ByVal sender As Object, ByVal e As
System.Windows.Forms.KeyEventArgs) Handles txbPY.KeyDown
        If e.KeyCode = Keys.Enter Then
            SetDGDLList()
        End If
    End Sub

    Private Sub btnUpdate_Click(ByVal sender As System.Object, _
        ByVal e As System.EventArgs) Handles btnUpdate.Click
        Try
            Dim score As Integer = CInt(txbScore.Text)
        Catch ex As Exception
            MessageBox.Show("成绩格式不正确！")
        End Try
        If dgdList.CurrentCell.RowIndex <> -1 Then
            Dim db As DataBase = New DataBase
            Dim strSQL As String = "update 成绩表 set 成绩="
            strSQL += txbScore.Text.Trim + " where 编号="
            strSQL += dtData.Rows(dgdList. _
                CurrentCell.RowIndex) (4).ToString.Trim
            db.RunDelOrInsSQL(strSQL)
            db.Dispose()
            SetDGDLList()
        End If
    End Sub

    Private Sub btnSubmit_Click(ByVal sender As System.Object, _
        ByVal e As System.EventArgs) Handles btnSubmit.Click

```

```

If dgdList.CurrentRowNumber = -1 Then
    Exit Sub
End If
Dim strSubject = dtData.Rows( _
dgdList.CurrentRowNumber)(5).ToString.Trim
Dim dlgResult As DialogResult = MessageBox.Show( _
    ("提交后成绩不可以修改，是否确认提交?", _
    "提示", MessageBoxButtons.YesNo)
If dlgResult = DialogResult.Yes Then
    Dim strSQL As String = "exec sf_成绩提交" + strSubject
    Dim db As DataBase = New DataBase
    db.RunDelOrInsSQL(strSQL)
    db.Dispose()
    MessageBox.Show("提交成绩成功!")
    SetDGDList()
End If
End Sub

Private Sub btnSearch_Click(ByVal sender As System.Object, _
ByVal e As System.EventArgs) Handles btnSearch.Click
    SetDGDList()
End Sub
End Class

```

## 7. 报表统计

### 7.1 打印成绩单



运行结果如下：





|                  |      |       |    |
|------------------|------|-------|----|
| 2011-11-         |      |       |    |
| 成绩单              |      |       |    |
| 课程               | 开课系  | 教师    | 成绩 |
| 管理会计 (注)         | 人文学院 | 教师9   | 97 |
| 中国革命史 (注)        | 法学院  | 教师38  | 93 |
| 邓小平理论基础          | 外语系  | 教师51  | 97 |
| 英语阅读 (2) (3) (注) | 外语系  | 教师115 | 88 |
| 病理学              | 医学院  | 教师147 | 87 |
| 妇产科学             | 医学院  | 教师163 | 99 |
| 毕业作业             | 医学院  | 教师169 | 99 |

详细代码设计:

```
Imports CrystalDecisions.CrystalReports.Engine
```

```
Public Class frmPrint
```

```
    Inherits System.Windows.Forms.Form
```

```
    Private dtPrint As DataTable
```

```
#Region " Windows 窗体设计器生成的代码"
```

```
    Public Sub New()
```

```
        MyBase.New()
```

```
        ' 该调用是Windows 窗体设计器所必需的。
```

```
        InitializeComponent()
```

```
        ' 在InitializeComponent() 调用之后添加任何初始化
```

```
    End Sub
```

```
        ' 窗体重写dispose 以清理组件列表。
```

```
    Protected Overloads Overrides Sub Dispose(ByVal disposing As Boolean)
```

```

        If disposing Then
            If Not (components Is Nothing) Then
                components.Dispose()
            End If
        End If
        MyBase.Dispose(disposing)
    End Sub

'Windows 窗体设计器所必需的
Private components As System.ComponentModel.IContainer

'注意：以下过程是Windows 窗体设计器所必需的
'可以使用Windows 窗体设计器修改此过程。
'不要使用代码编辑器修改它。
Friend WithEvents CrystalReportViewer1 As
CrystalDecisions.Windows.Forms.CrystalReportViewer
    <System.Diagnostics.DebuggerStepThrough()> Private Sub
InitializeComponent()
    Dim resources As System.Resources.ResourceManager = New
System.Resources.ResourceManager(GetType(frmPrint))
    Me.CrystalReportViewer1 = New
CrystalDecisions.Windows.Forms.CrystalReportViewer
    Me.SuspendLayout()
    ,
    'CrystalReportViewer1
    ,

    Me.CrystalReportViewer1.ActiveViewIndex = -1
    Me.CrystalReportViewer1.Dock =
System.Windows.Forms.DockStyle.Fill
    Me.CrystalReportViewer1.Location = New
System.Drawing.Point(0, 0)
    Me.CrystalReportViewer1.Name = "CrystalReportViewer1"
    Me.CrystalReportViewer1.ReportSource = Nothing
    Me.CrystalReportViewer1.Size = New System.Drawing.Size(552,
293)
    Me.CrystalReportViewer1.TabIndex = 0
    ,
    'frmPrint
    ,

    Me.AutoScaleBaseSize = New System.Drawing.Size(6, 14)
    Me.ClientSize = New System.Drawing.Size(552, 293)
    Me.Controls.Add(Me.CrystalReportViewer1)
    Me.Icon = CType(resources.GetObject("$this.Icon"),
System.Drawing.Icon)

```

```

    Me.Name = "frmPrint"
    Me.Text = "Print Preview"
    Me.ResumeLayout(False)

End Sub

#End Region
Sub New(ByRef dt As DataTable)
    MyBase.New()

    ' 该调用是Windows 窗体设计器所必需的。
    InitializeComponent()

    ' 在InitializeComponent() 调用之后添加任何初始化
    dtPrint = dt
End Sub
Private Sub frmPrint_Load(ByVal sender As Object, _
    ByVal e As System.EventArgs) Handles MyBase.Load
    Try
        Dim obj As ReportDocument = New ReportDocument
        ' obj加载Crystal Report的路径要设置好
        obj.Load("Report.rpt")
        ' 设置报表的数据源
        Dim ds As DataSet = New DataSet
        ds.Tables.Add(dtPrint)
        obj.SetDataSource(dtPrint)
        Me.CrystalReportViewer1.ReportSource = obj
    Catch ex As Exception
        MessageBox.Show(ex.ToString)
    End Try
End Sub
End Class

```