Subprocedure Problems - I

Problem 1. Text, Chapter 5-1, page 178, Problem 1

Time's fun when you're having flies.
Kermit the frog

Problem 2. Text, Chapter 5-1, page 178, Problem 4

Hello GEORGE
How are you today?

Problem 3. Text, Chapter 5-1, page 181, Problem 18

640 acres in a square mile

Problem 4. Text, Chapter 5-1, page 182, Problem 20

The balance after 1 year is 108

Problem 5. Text, Chapter 5-1, page 187, Problem 46

Private Sub btnCompute_Click(ByVal sender As System.Object, ByVal e As System.EventArgs)
    Dim num1, num2, num3 As Double
    'Display the average of three numbers
    num1 = CDbl(InputBox("Enter the first number:"))
    num2 = CDbl(InputBox("Enter the second number:"))
    num3 = CDbl(InputBox("Enter the third number:"))
    Average(num1, num2, num3)
End Sub

Sub Average(ByVal num1 As Double, ByVal num2 As Double, ByVal num3 As Double)
    'Display the average of the three numbers.
    Dim avg As Double
    avg = (num1 + num2 + num3) / 3
    txtOutput.Text = "The average of the three numbers is " & avg
End Sub
Problem 6. Text, Chapter 5-1, page 188, Problem 48

![Image](5.1-Exercise-48.png)

```vbnet
Private Sub btnDisplay_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnDisplay.Click
    'Print the user's approximate age in years and in days.
    'Assume today is 12/31/2008.
    Dim birthYr As Integer
    birthYr = CInt(txtYear.Text)
    lstOutput.Items.Clear()
    ShowYears(birthYr)
    ShowDays(birthYr)
End Sub

Private Sub ShowYears(ByVal birthYr As Integer)
    'Display age in years
    Dim yrs As Integer
    yrs = 2008 - birthYr
    lstOutput.Items.Add(“You are now “ & yrs & “ years old.”)
End Sub

Private Sub ShowDays(ByVal birthYr As Integer)
    'Display approximate age in days
    Dim days As Integer
    days = (2008 - birthYr) * 365
    lstOutput.Items.Add(“You have lived for more than “ & days & “ days.”)
End Sub
```

Subprocedure Problems - II

Problem 7. Text, Chapter 5-2, page 198, Problem 8

Approximate Annual Wage: $20,000.00

Problem 8. Text, Chapter 5-2, page 200, Problem 18

With tax, price is $210.00
Problem 9. Text, Chapter 5-2, page 203, Problem 32

```vbnet
Public Class frmBalances

    Dim fmtStr As String = ""(0,-15)(1,12:C)"

    Private Sub btnDisplay_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnDisplay.Click
        'Display end-of-month credit card balances
        Dim sr As IO.StreamReader = IO.File.OpenText("CHARGES.TXT")
        Dim name As String = ""
        lstOutput.Items.Clear()
        DisplayHeader()
        GetData_DisplayBalance(sr)
        GetData_DisplayBalance(sr)
        sr.Close()
    End Sub

    Sub DisplayHeader()
        lstOutput.Items.Add(String.Format(fmtStr, "", "End-Of-Month"))
        lstOutput.Items.Add(String.Format(fmtStr, "Name", "Balance"))
        lstOutput.Items.Add(""
    End Sub

    Sub GetData_DisplayBalance(ByVal sr As IO.StreamReader)
        Dim name As String
        Dim balance, beginBal, purchases, payment As Double
        name = sr.ReadLine
        beginBal = CDbl(sr.ReadLine)
        purchases = CDbl(sr.ReadLine)
        payment = CDbl(sr.ReadLine)
        ComputeBalance(beginBal, purchases, payment, balance)
        'Display the balance
        lstOutput.Items.Add(String.Format(fmtStr, name, balance))
    End Sub

    Sub ComputeBalance(ByVal beginBal As Double, ByVal purch As Double, _
                        ByVal payment As Double, ByRef endBal As Double)
        'Compute the balance
        Dim financeChg As Double "finance charges
        financeChg = 0.015 * beginBal
        endBal = financeChg + beginBal + purch - payment
    End Sub

End Class
```