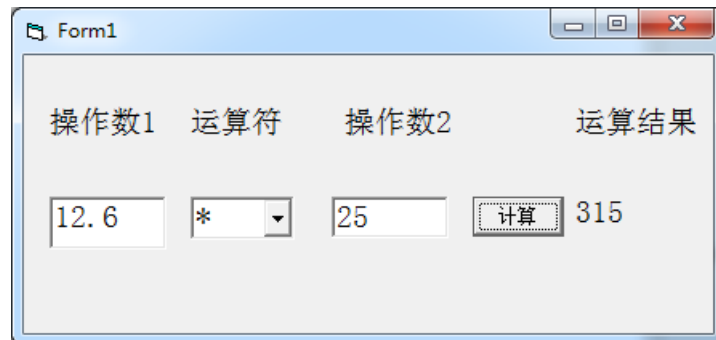


Visual Basic 程序设计习题、试题(补充-试题)

试题一

一、程序填空题（每题 12 分，共 36 分）

1. 以下程序可以一个简易的计算器，运行界面如下图所示。在文本框 Text1 和 Text2 中分别输入数值，在组合框 Combo1 中选择一个运算符（+、-、*、/），单击“计算”按钮后，进行相应的运算，并将结果显示在标签 Label15 中。



```
Private Sub Command1_Click()  
    Dim a As Single, b As Single, result As Single  
    a = Val(Text1.Text)  
    b = Val(Text2.Text)  
    Select Case Combo1.Text  
        Case "+"  
            result = a + b  
        Case "-"  
            result = a - b  
        Case "*"  
            result = a * b  
        Case "/"  
            result = a / b  
    End Select  
    Label15.Caption = result  
End Sub
```

2. 根据以下公式计算 π 的近似值，直到最后一项的绝对值小于 10^{-6} 为止。

$$\frac{\pi}{4} = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \frac{1}{11} + \dots$$

```
Private Sub Form_Click()  
    Dim sum As Single, t As Single, i As Single  
    Dim f As Integer  
    sum = 1: i = 1: f = -1
```

```

Do
    i = i + 2
    sum = sum + f / i
    f = -f
Loop Until Abs(f / i) < 10 ^ -6
sum = 4 * sum
Print "π="; sum
End Sub

```

3. 随机生成 50 个 1~100（包含 1 和 100）之间的整数存放在数组中，打印数组中能被 7 整除的数，并统计其个数。

```

Private Sub Form_Click()
    Dim a(1 To 50) As Integer
    Dim i As Integer, n As Integer
    Randomize
    For i = 1 To 50
        a(i) = 1 + Int(Rnd * 100)
    Next i
    n = 0
    For i = 1 To 50
        If a(i) / 7 = a(i) \ 7 Then
            Print a(i)
            n = n + 1
        End If
    Next i
    Print "能被 7 整除的数的个数有: "; n
End Sub

```

二、阅读程序题（每题 8 分，共 32 分）

1. 执行以下程序后，输出的结果是_____。

```

Private Sub Form_Click()
    Dim i%, j%
    For i = 1 To 3
        Print Spc(10 - i);
        For j = 1 To 2 * i - 1
            Print "*";
        Next j
        Print
    Next i
End Sub

```

2. 执行以下程序后，输出的结果是_____。

```

Private Sub Form_Click()
    a = 8: y = 0
    Do

```

```

        a = a + 2
        y = y + a
        If y > 20 Then Exit Do
    Loop While a <= 14
    Print "a="; a; "y="; y
End Sub

```

3. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    For i = 1 To 3
        Print Fun(i)
    Next i
End Sub

Private Function Fun(ByVal a As Integer)
    Static t As Integer
    t = t * 10 + a
    Fun = t
End Function

```

4. 执行以下程序后，输出的结果是_____。

```

Private Sub Form_Click()
    Dim i As Integer, s As Integer
    s = 0
    For i = 1 To 4
        t = 1
        For j = 1 To i
            t = t * j
        Next j
        s = s + t
        Print s
    Print "s="; s
End Sub

```

三、程序设计题（每题 16 分，共 32 分）

1. 设计如下图所示的界面，编写“计算”按钮 Command1 的 Click 事件过程，根据文本框 Text1 中输入的里程数 x ，按照以下分段函数计算车费 y ，并将结果显示在文本框 Text2 中。

$$y = \begin{cases} 8 & x \leq 3 \\ 1.5 \times (x - 3) + 8 & 3 < x \leq 20 \\ 2 \times (x - 20) + 35 & x > 20 \end{cases}$$

```
Private Sub Command1_Click()
    x = Val(Text1.Text)
    If x <= 3 Then
        y = 8
    ElseIf x > 3 And x <= 20 Then
        y = 1.5 * (x - 3) + 8
    Else
        y = 2 * (x - 20) + 35
    End If
    Text2.Text = y
    'Text2.Text = Str(y)
End Sub
```

2. 将一张一百元钞票，换成十元、五元 and 一元纸币，每种至少 1 张。请编写窗体的 Click 事件过程，输出所有的兑换方案。

```
Private Sub Form_Click()
    Dim a As Integer, b As Integer, c As Integer
    i = 0
    For a = 1 To 10 ' (9)
        For b = 1 To 20 ' (17)
            For c = 1 To 100 ' (85)
                If a * 10 + b * 5 + c * 1 = 100 Then
                    i = i + 1
                    Print "方案" & i; Tab(10); "10 元"; Tab(14); a; "张; "; -
                    Tab(22); "5 元"; Tab(25); b; "张; "; Tab(33); "1 元"; -
                    Tab(37); c; "张。"
                End If
            Next c
        Next b
    Next a
End Sub
```

试题二

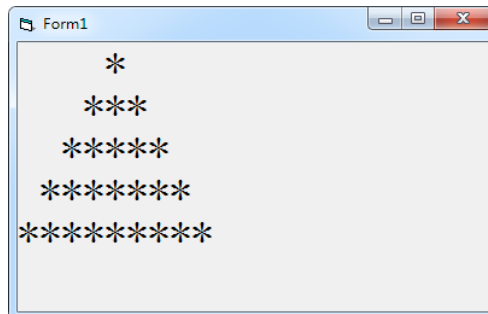
一、程序填空题（每题 12 分，共 36 分）

1. 以下程序的功能是计算函数 y 的值。

$$y = \begin{cases} 3x - 6 & (x < 5) \\ x + 4 & (5 \leq x < 10) \\ 4x + 2 & (x \geq 10) \end{cases}$$

```
Private Sub Form_Click()  
    x = Val(InputBox("请输入 x 的值: "))  
    Select Case x  
        Case Is < 5  
            y = 3 * x - 6  
        Case Is < 10  
            y = x + 4  
        Case Else  
            y = 4 * x + 2  
    End Select  
    Print "y="; y  
End Sub
```

2. 以下程序的功能是在窗体上输出如下图形。



```
Private Sub Form_Click()  
    Dim i As Integer, j As Integer  
    For i = 1 To 5  
        For j = 1 To 5 - i  
            Print Spc(1);  
        Next j  
        For j = 1 To 2 * i - 1  
            Print "*";  
        Next j  
        Print  
    Next i  
End Sub
```

3. 以下程序的功能是通过调用 jc 函数过程计算并输出 $n!$ 的值。

```

Private Sub Form_Click()
    Dim m As Long, s As Integer
    n = Val(InputBox("请输入 n 值: "))
    m = jc(n)
    Print "阶乘值为: ", m
End Sub

Private Function jc(ByVal p As Integer) As Long
    Dim s As Long, i As Integer
    s = 1
    For i = 1 To p
        s = s * i
    Next i
    jc = s
End Function

```

二、阅读程序题（每题 8 分，共 32 分）

1. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim s As Integer, i As Integer
    For i = 1 To 10
        If i / 3 = Int(i / 3) Then
            s = s + 2 * i
        End If
    Next i
    Print "s="; s
End Sub

```

2. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim k As Integer, a As Integer
    k = 1: a = 0
    Do
        k = k + 2
        a = a + 2 * k - 1
    Loop Until k >= 5
    Print "a="; a
End Sub

```

3. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim i As Integer, j As Integer
    Dim m(6) As Long, n(6) As Long
    i = 3
    For j = 1 To 6
        m(j) = 2 * j
    Next j

```

```

        n(i) = i + 2 * j
    Next j
    Print m(i); n(i)
End Sub

```

4. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim x As Integer, y As Integer
    x = 5: y = 6
    Call plus(x, y)
    Print "x="; x; "y="; y
End Sub

Private Sub plus(ByRef a%, ByVal b%)
    a = a + 1
    b = 2 * (a + b)
End Sub

```

三、程序设计题（每题 16 分，共 32 分）

1. 编写命令按钮 Command1 的 Click 事件过程，从键盘输入月用电量，计算并输出该月的电费（不超过 180 度按每度 0.6 元收费；超过 180 度的部分按每度 0.8 元收费）。

```

Private Sub Command1_Click()
    Dim x As Single, y As Single
    x = InputBox("请输入该月的用电量")
    If x <= 180 Then
        y = x * 0.6
    Else
        y = 180 * 0.6 + (x - 180) * 0.8
    End If
    Print "该月的电费: "; y; "元"
End Sub

```

2. 编写窗体 Form1 的 Click 事件过程，利用随机函数生成 30 个[0, 300]间的整数，用于模拟一个月 PM2.5 的值，统计并输出该月空气质量为“优良”的天数（设 PM2.5 的值不超过 75 为“优良”）。

```

Private Sub Form_Click()
    Dim a(30) As Integer
    For i = 1 To 30
        a(i) = Int(Rnd() * 301)
    Next i
    For i = 1 To 30
        If a(i) <= 75 Then j = j + 1
    Next i
    Print "本月空气质量为“优良”的天数为: "; j; "天"
End Sub

```

试题三

一、程序填空题（每题 12 分，共 36 分）

1. 窗体上有以下三个控件：列表框 List1，文本框 Text1 和命令按钮 Command1（标题为“求和”。程序运行后，将 1~100 之间能够被 9 整除的添加到 List1 中；若单击“求和”按钮，则对 List1 中的数进行求和，并将计算结果显示在 Text1 中，如下图所示。



```
Private Sub Form_Load()  
    Dim i As Integer  
    For i = 1 To 100  
        If i Mod 9 = 0 Then  
            List1.AddItem i  
        End If  
    Next i  
End Sub  
Private Sub Command1_Click()  
    Dim a As Integer, summ As Long  
    summ = 0  
    For i = 0 To List1.ListCount  
        summ = summ + Val(List1.List(i))  
    Next i  
    Text1.Text = summ  
End Sub
```

2. 以下程序的功能是产生 100 个小于 1000 的随机正整数，统计并输出其中是 5 的倍数的个数。

```
Private Sub Form_Click()  
    Dim a(1 To 100) As Integer, k As Integer  
    k = 0  
    For i = 1 To 100  
        a(i) = Int(Rnd() * 999 + 1)  
        If a(i) Mod 5 = 0 Then  
            k = k + 1  
            Print a(i);  
        End If  
    Next i  
    Print  
    Print "5 的倍数的个数为: ", k  
End Sub
```


3. 以下程序的功能是将一维数组 A 中的 100 个元素分别赋给二维数组 B 中各元素并输出。即将 A(1)到 A(10)依次赋值给 B(1, 1)到 B(1, 10), A(11)到 A(20)依次赋值给 B(2, 1)到 B(2, 10), …… , A(91)到 A(100)依次赋值给 B(10, 1)到 B(10, 10)。

```
Private Sub Form_Click()  
    Dim i As Integer, j As Integer  
    Dim a(1 To 100) As Integer  
    Dim b(1 To 10, 1 To 10) As Integer  
    For i = 1 To 100  
        a(i) = Int(Rnd * 100)  
    Next i  
    For i = 1 To 10  
        For j = 1 To 10  
            b(i, j) = a((i - 1) * 10 + j)  
            Print b(i, j);  
        Next j  
        Print  
    Next i  
End Sub
```

二、阅读程序题（每题 8 分，共 32 分）

1. 执行以下程序后，输出的结果是_____。

```
Private Sub Command1_Click()  
    Dim s As Integer, i As Integer  
    For i = 1 To 10  
        If i / 4 = Int(i / 4) Then  
            s = s + i  
        End If  
    Next i  
    Print "s="; s  
End Sub
```

2. 执行以下程序后，输出的结果是_____。

```
Private Sub Command1_Click()  
    Dim k As Integer, s As Integer  
    k = 0: s = 0  
    Do While k < 10  
        k = k + 2  
        k = 2 * k + 1  
        s = s + k  
    Loop  
    Print "s="; s  
End Sub
```

3. 执行以下程序后，输出的结果是_____。

```
Private Sub Command1_Click()
```

```

Dim i As Integer, j As Integer
Dim m(5) As Long, n(5) As Long
i = 2
For j = 1 To 5
    m(j) = j
    n(i) = 2 * i + j
Next j
Print n(i); m(i)
End Sub

```

4. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim x As Integer, y As Integer, z As Integer
    x = 3: y = 4: z = 5
    Call plus(x, y, z)
    Print "z="; z
End Sub

Private Sub plus(ByVal a%, ByVal b%, ByRef c%)
    c = 2 * (a + b)
End Sub

```

三、程序设计题（每题 16 分，共 32 分）

1. 编写窗体 Form1 的 Click 事件过程，利用随机函数生成一个[0, 300]间的整数，模拟 PM2.5 的值，判断并输出空气质量（设 PM2.5 的值在 35 及其以下为“优”；35 以上、75 及其以下为“良”；75 以上为“差”）。

```

Private Sub Form_Click()
    Dim i As Integer
    i = Int(Rnd * 300 + 1)
    If i <= 35 Then
        Print "空气质量为优"
    ElseIf i <= 75 Then
        Print "空气质量为良"
    Else
        Print "空气质量为差"
    End If
End Sub

Private Sub Command1_Click()
    Dim i As Integer
    i = Int(Rnd * 300 + 1)
    Select Case i
        Case Is <= 35
            Print "空气质量为优"
        Case Is <= 75
            Print "空气质量为良"
        Case Else

```

```

        Print "空气质量为差"
    End Select
End Sub

```

2. 先编写一个函数 sikam(n) 用于计算多项式 $1+3+5+\dots+(2*n-1)+\dots$ 的值，然后编写命令按钮 Command1 的 Click 事件过程，调用 sikam 函数计算并输出 $1+(1+3)+(1+3+5)+\dots+(1+3+5+\dots+99)$ 的值。

```

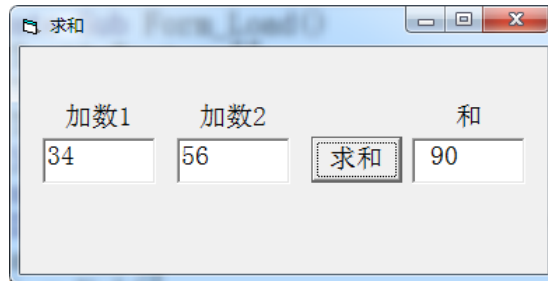
Function sikam(n)
    Dim kam As Integer
    For i = 1 To n
        kam = kam + 2 * i - 1
    Next i
    sikam = kam
End Function
Private Sub Command1_Click()
    Dim sum As Long
    sum = 0
    For i = 1 To 50
        sum = sum + sikam(i)
    Next i
    Print sum
End Sub

```

试题四

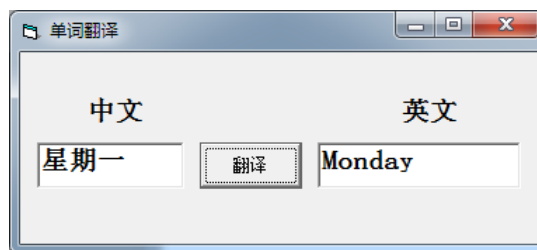
一、程序填空题（每题 12 分，共 36 分）

1. 以下程序可以实现加法运算，运行界面如图所示。首先将 3 个文本框内容清空，然后在文本框 Text1 和 Text2 中分别输入数值，单击“求和”按钮进行加法运算，计算结果显示在文本框 Text3 中。



```
Private Sub Form_Load()  
    Text1.Text = ""  
    Text2.Text = ""  
    Text3.Text = ""  
End Sub  
Private Sub Command1_Click()  
    Dim a As Single, b As Single  
    a = Val(Text1.Text)  
    b = Val(Text2.Text)  
    Text3.Text = Str(a + b)  
End Sub
```

2. 以下程序可以实现中英文翻译，运行界面如图所示。在文本框 Text1 中输入星期的中文单词，单击“翻译”按钮，在文本框 Text2 中显示对应的英文单词。



```
Private Sub Command1_Click()  
    Select Case Text1.Text  
        Case "星期一"  
            Text2.Text = "Monday"  
        Case "星期二"  
            Text2.Text = "Tuesday"  
        Case "星期三"  
            Text2.Text = "Wednesday"  
        Case "星期四"  
            Text2.Text = "Thursday"  
        Case "星期五"  
            Text2.Text = "Friday"
```

```

        Case "星期六"
            Text2.Text = "Saturday"
        Case "星期日"
            Text2.Text = "Sunday"
        Case Else
            Text2.Text = "单词输入有误"
    End Select
End Sub

```

3. 下面程序的功能是随机生成 20 个三位正整数，输出其中的第二大数，按要求完善程序。

```

Private Sub Form_Click()
    Dim i As Integer, n As Integer
    Dim max As Integer, max1 As Integer
    a = Int(Rnd * 900) + 100
    max = a
    For i = 1 To 19
        n = Int(Rnd * 900) + 100
        If n > max Then
            max1 = max
            max = n
        ElseIf n > max1 Then
            max1 = n
        End If
    Next i
    Print
    Print "最大数是"; max; "第二大数是"; max1
End Sub

```

二、阅读程序题（每题 8 分，共 32 分）

1. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    a = 14
    b = 30
    Select Case b \ 10
        Case 0
            c = a * 10 + b
        Case 1 To 9
            c = a * 100 + b
        Case 10 To 99
            c = a * 1000 + b
    End Select
    Print c
End Sub

```

2. 执行以下程序后，输出的结果是_____。

```

Private Sub Command1_Click()
    Dim i As Integer, x As Integer
    For i = 1 To 6
        If i = 1 Then x = i
        If i <= 4 Then
            x = x + 1
        Else
            x = x + 2
        End If
    Next i
    Print x
End Sub

```

3. 执行以下程序后，输出的结果是_____。

```

Option Base 1
Private Sub Command1_Click()
    Dim c As Integer, d As Integer
    d = 0
    c = 6
    x = Array(2, 4, 6, 8, 10, 12)
    For i = 1 To 6
        If x(i) > c Then
            d = d + x(i)
            c = x(i)
        Else
            d = d + c
        End If
    Next i
    Print d
End Sub

```

4. 执行以下程序后，输出的结果是_____。

```

Private Function f(m As Integer)
    If m Mod 2 = 0 Then
        f = m
    Else
        f = 1
    End If
End Function
Private Sub Command1_Click()
    Dim i As Integer
    s = 0
    For i = 1 To 5
        s = s + f(i)
    Next i
    Print s

```

End Sub

三、程序设计题（每题 16 分，共 32 分）

1. 编写程序，计算分段函数的结果。

$$y = \begin{cases} \sin x + \sqrt{x^3 + 1} & x \neq 0 \\ \cos x - x^2 + 3x & x = 0 \end{cases}$$

要求：使用 InputBox() 函数给 x 赋值。

```
Private Sub Command1_Click()  
    x = InputBox("输入 x 值")  
    If x <> 0 Then  
        y = Sin(x) + Sqr(x ^ 3 + 1)  
    Else  
        y = Cos(x) - x ^ 2 + 3 * x  
    End If  
    Print y  
End Sub
```

2. 百元买百鸡问题。假定小鸡每只 5 角，公鸡每只 2 元，母鸡每只 3 元。现有 100 元钱要求买 100 只鸡，编程列出所有可能的购买方案。

```
Private Sub Command1_Click()  
    For xj = 0 To 100  
        For gj = 0 To 50  
            For mj = 0 To 33  
                If xj * 0.5 + gj * 2 + mj * 3 = 100 And xj + gj + mj = 100 Then  
                    Print "小鸡"; xj & "只; "; "公鸡"; gj & "只; "; "母鸡"; mj & "只。"  
                End If  
            Next mj  
        Next gj  
    Next xj  
End Sub
```