

The General Certificate of Education
Advanced Subsidiary
Specimen Pre-release material for 2009 and 2010
Month Year



COMPUTING

**COMP1/PR Problem Solving, Programming, Data
Representation and Practical Exercise** And when
the

Date Time

Pre-release material – Instructions for Candidates: Program Language Visual Basic 6

To be given to candidates on or after 1 April XXXX

Information

- There are 2 parts to this pre-release material:
 - Section A: Skeleton Program
 - Section B: Test Data.
- This material will be re-printed in the examination paper.
- You are advised to familiarise yourself with this material before the examination.
- You will use both the program and test data in the examination and your teacher will provide you with access to these electronically at the start of the examination.
- You can view/download this material on the AQA Website: www.aqa.org.uk/xxxxxx

COMP1/PR/VB6

SECTION A1 – The Visual Interface

Create a single form with the following controls and properties:

Form	
frmNumberConverter	Caption: Specimen paper - COMP1
List Boxes	
lstMenu	
lstOutput	
Text Box	
txtOutput	

SECTION A2 – Skeleton Program

Line Number	Program statements
1	Dim Choice As Integer
2	Dim Finished As Boolean
3	
4	Sub ShowMenu()
5	lstMenu.AddItem " 1. - Convert a Hex number to binary"
6	lstMenu.AddItem " 2. - Convert a txt file of Hex numbers"
7	lstMenu.AddItem " 3. - Display text file"
8	lstMenu.AddItem " 4. - Exit program"
9	End Sub
10	
11	Sub GetResponse(ByRef Response As Integer)
12	Response = lstMenu.ListIndex + 1
13	End Sub
14	
15	Function Binary(ByVal Hex As String) As String
16	Dim Result As String
17	Dim HexDigit As Integer
18	Dim NoOfHexDigits As Integer
19	Dim ThisHexDigit As String
20	Dim BinaryEquivalent As String
21	
22	Result = ""

```
23     NoOfHexDigits = Len(Hex)
24
25     For HexDigit = 1 To NoOfHexDigits
26
27         ThisHexDigit = Mid(Hex, HexDigit, 1)
28
29         ' check if this is a valid hex digit?
30     If InStr("0123456789ABCDEF", ThisHexDigit) <> 0 Then
31         Select Case ThisHexDigit
32             Case "0"
33                 BinaryEquivalent = ""
34             Case "1"
35                 BinaryEquivalent = ""
36             Case "2"
37                 BinaryEquivalent = ""
38             Case "3"
39                 BinaryEquivalent = ""
40             Case "4"
41                 BinaryEquivalent = ""
42             Case "5"
43                 BinaryEquivalent = ""
44             Case "6"
45                 BinaryEquivalent = ""
46             Case "7"
47                 BinaryEquivalent = ""
48             Case "8"
49                 BinaryEquivalent = ""
50             Case "9"
51                 BinaryEquivalent = ""
52             Case "A"
53                 BinaryEquivalent = ""
54             Case "B"
55                 BinaryEquivalent = ""
56             Case "C"
57                 BinaryEquivalent = ""
58             Case "D"
59                 BinaryEquivalent = ""
60             Case "E"
61                 BinaryEquivalent = ""
62             Case "F"
63                 BinaryEquivalent = ""
64         End Select
65         Result = Result & BinaryEquivalent
66     Else
67         ' more code here ...
68     End If
69 Next
70 Binary = Result
71 End Function ' for function Binary
72
73 Sub ConvertNumber()
```

```
74         Dim Hexadecimal As String
75         Dim Converted As String
76
77         Hexadecimal = InputBox("Enter a hexadecimal number")
78         Converted = Binary(Hexadecimal)
79         txtOutput.Text = Converted
80     End Sub ' of procedure ConvertNumber
81
82     Sub ConvertFile()
83         Dim HexNumber As String
84         Dim BinaryNumber As String
85         Dim FileNameIn As String
86
87         FileNameIn = "HexData.dat"
88         Open FileNameIn For Input As 1
89         Do While Not EOF(1)
90             Input #1, HexNumber
91             BinaryNumber = Binary(HexNumber)
92             lstOutput.AddItem BinaryNumber
93         Loop
94
95         Close 1
96     End Sub ' of procedure ConvertFile
97
98     Sub DisplayFile()
99         Dim NextNumber As String
100        Open "BinaryData.dat" For Input As 1
101
102        Do While Not EOF(1)
103            Input #1, NextNumber
104            lstOutput.AddItem NextNumber
105        Loop
106
107        Close (1)
108    End Sub ' of procedure DisplayFile
109
110    Private Sub Form_Load()
111        Finished = False
112        Call ShowMenu
113    End Sub
114
115
116    Private Sub lstMenu_Click()
117        Call GetResponse(Choice)
118
119        Select Case Choice
120            Case 1: Call ConvertNumber
121            Case 2: Call ConvertFile
122            Case 3: Call DisplayFile
123            Case 4: 'end program
124        End Select
125    End Sub
```

SECTION B – Test Data

000000000000
000001110000
000010000100
000010001000
000001110000
001000100010
000100100100
000010101000
000001110000
000000100000
000000100000
000000100000
000001010000
000010001000
000100000100

END OF PRE-RELEASE MATERIAL