



全國高級中等學校 101 學年度商業類科學生技藝競賽

【程式設計】職種【學科】模擬試卷

選手證號碼：_____ 姓名：_____

注意事項：請將答案劃記於答案卡，未依規定劃記者不予計分。

試題說明：(選擇題每題 4 分，共 100 分)

- () 1. 在陣列中有 11 筆資料，利用循序搜尋存，找到資料的平均次數為何？
(A) 1 (B) 2 (C) 6 (D) 11
- () 2. 下列 Visual Basic 程式片段，請問其執行結果為何？(A) 0 (B) 1.5 (C) 5.5 (D) 6.5

Print (((19 Mod 3) * (19 Mod 7)) / 2 + 2 ^ (2))
- () 3. 執行以下 Visual Basic 程式片段，其結果為何？
(A) 0 (B) 1 (C) 1011 (D) 1001

Print (1011 Xor 1011 Xor 1001 Xor 1001)
- () 4. 下列程式執行後，其結果為何？(A)成立! (B)不成立! (C)語法錯誤 (D)無法判斷
If 1 + 1 = 2 Xor 1 + 1 = 11 Then
 Console.Write("成立!")
Else
 Console.Write("不成立!")
End If
- () 5. 執行下列 BASIC 程式，其 K 結果為何？(A)0 (B) 120 (C) 15 (D) 10
Dim K As Integer
K = GAME(5)

Function GAME(ByVal X As Integer) As Integer
 If (X > 1) Then
 GAME = X + GAME(X - 1)
 Else
 GAME = 1
 End If
End Function

- ()6. 執行以下 BASIC 程式，其 A(3, 3)結果為何？ (A)0 (B)24 (C)27 (D)81

```
Dim A(3, 3)
For i = 0 To 3
    For j = 0 To 3
        A(i, j) = (i * j) + (j * i) + i + j
    Next
Next
```

- ()7. 執行以下 BASIC 程式，其 A(4, 4)結果為何？ (A)0 (B)24 (C)30 (D)112

```
Dim A(4, 4)
For i = 0 To 4
    For j = 0 To 4
        A(i, j) = i + j
    Next
Next
For i = 1 To 4
    For j = 1 To 4
        A(i, j) = A(i - 1, j) + A(i, j - 1)
    Next
Next
```

- ()8. 執行下列 BASIC 程式,其 A(1, 4) * A(4, 1)結果為何？ (A)0 (B) 120 (C) 154 (D) 300

```
Dim A(4, 4) As Integer
Dim i, j As Integer
For i = 0 To 4
    For j = 0 To 4
        A(i, j) = (i * 3) + (j * 2)
    Next j
Next i
```

- () 9. 執行下列 BASIC 程式，其 S 結果為何? (A)0 (B)15 (C)21 (D)35

```
Dim S As Integer, I As Integer, J As Integer
S = 0
I = 1
While I < 6
    For J = 1 To I
        S = S + J
    Next J
    I = I + 1
End While
```

- () 10. 執行下列 BASIC 程式，其 S(4,4) 結果為何? (A) 1 (B) 2 (C) 3 (D) 4

```
Dim i, j, S(5, 5) As Integer
For i = 1 To 5
    For j = 1 To 5
        If i > 1 And j > 1 Then
            S(i, j) = S(i - 1, j - 1) + 1
        Else
            S(i, j) = 1
        End If
    Next j
Next i
```

- () 11. 執行下列 BASIC 程式，其 S 結果為何? (A) 0 (B) 14 (C) 10 (D) 15

```
Dim S As Integer, K As Integer
K = 1 : S = 0
While K < 5
    K = K + 1
    S = S + K
End While
```

- () 12. 執行下列 BASIC 程式，其 $A(1) + A(3) + A(5) + A(7) - A(9)$ 結果為何?

(A)11 (B)7 (C)16 (D)0

```
Dim I As Integer
Dim A(10) As Integer
For I = 1 To 10
    A(I) = 2 * I - 1
Next I
```

() 13. 執行下列 BASIC 程式，其 $A(4) + A(7)$ 結果為何？

(A) 0 (B) 1 (C) 2 (D) 3

```
Dim A(10) As Integer
```

```
Dim K As Integer
```

```
For K = 1 To 10
```

```
    A(K) = 1
```

```
Next K
```

```
While K < 5
```

```
    A(K) = (K ^ 2 + 1) Mod 7
```

```
End While
```

() 14. 執行下列 BASIC 程式，其 $C(1,1)$ 結果為何？ (A)10 (B)-10 (C)30 (D)-30

```
Dim i, j, Count, A(3, 3), B(3, 3), C(3, 3) As Integer
```

```
For i = 1 To 3
```

```
    For j = 1 To 3
```

```
        A(i, j) = 2 * j - 1
```

```
    Next j
```

```
Next i
```

```
Count = 9
```

```
For i = 1 To 3
```

```
    For j = 1 To 3
```

```
        B(i, j) = Count
```

```
        Count = Count - 1
```

```
    Next j
```

```
Next i
```

```
For i = 1 To 3
```

```
    For j = 1 To 3
```

```
        C(i, j) = A(i, j) + B(i, j)
```

```
    Next j
```

```
Next i
```

() 15. 執行下列 BASIC 程式，其 SUM 結果為何？ (A)10 (B)0 (C)15 (D)6

```
Dim I As Integer, SUM As Integer
```

```
I = 0 : SUM = 0
```

```
While I < 5
```

```
    SUM = SUM + I
```

```
    I = I + 1
```

```
End While
```

() 16. 一雜湊函數為 $H(x) = x \text{ Mod } 7$ ，則 $H(36)$ 與下列何者會碰撞？
(A) $H(7)$ (B) $H(8)$ (C) $H(9)$ (D) $H(10)$

() 17. 下列程式所產生的亂數值的範圍為何？

(A) 0~6 (B) 1~5 (C) 1~6 (D) 1~7

Randomize()

Dim value As Integer = CInt(Int((6 * Rnd()) + 1))

() 18. 執行下列程式， $A(4)$ 之結果為何？(A) 5 (B) 6 (C) 7 (D) 8

Sub Main()

Dim A(5) As Integer

Dim K As Integer

For K = 0 To 5

$A(K) = K * 2$

Next K

While K < 3

$A(K) = (K^2 + 1) \text{ Mod } 9$

End While

Bubblesort(A, 5)

End Sub

Sub Bubblesort(ByVal Array() As Integer, ByVal Length As Integer)

Dim I As Integer

Dim J As Integer

Dim Temp As Integer

For I = Length - 1 To 1 Step -1 'the last element on the array does not get sorted.

 For J = 0 To I - 1

 If Array(J) > Array(J + 1) Then ' Compare neighboring elements

 Temp = Array(J)

 Array(J) = Array(J + 1)

 Array(J + 1) = Temp

 End If

 Next

Next

End Sub

()19. 請問(1011 XOR 1011 XOR 1011)的結果為何? (XOR: ExclusiveOR)

(A) 1111 (B) 0000 (C) 1001 (D)1011

() 20. 執行下列程式，Y 之結果為何？

(A) 345 (B) 456 (C) 3 (D) 123456

```
Dim X, Y As String
```

```
X = "123456"
```

```
Y = Mid(X, 3, 3)
```

()21. 執行下列程式，Z 之結果為何？

(A) 1024 (B) 512 (C) 1000 (D) 100

```
Dim Z, Y As Integer
```

```
While Z <= 100
```

```
Y = Y + 1 : Z = 10 ^ Y
```

```
End While
```

()22. 執行下列 BASIC 程式，其 C 結果為何? (A)0 (B)1 (C)2 (D)5

```
Dim A, B, C As Integer
```

```
A = 1
```

```
B = 1
```

```
C = F(A, F(A, B))
```

```
Function F(ByVal X As Integer, ByVal Y As Integer) As Integer
```

```
F = X ^ 2 + Y ^ 2
```

```
End Function
```

() 23. A, B 分別為八位元資料，A 為 11111111，B 為 00000000，XOR 代表互斥或運算子，下列何者正確?

(A) A XOR B = 00000000

(B) A XOR NOT A = 11111111

(C) A XOR NOT A = 00000000

(D) A XOR B XOR A = 11111111

- ()24. 執行下列 BASIC 程式，其 checkA, checkB 結果為何? (A)0,4 (B)4,0 (C)0,0 (D)4,4

```
Dim checkA, checkB, comanswer(3) As Integer
Dim Str As String
Str = "1234"
checkA = 0
checkB = 0
comanswer(0) = 4 : comanswer(1) = 3 : comanswer(2) = 2 : comanswer(3) = 1
For i = 0 To 3
    For j = 0 To 3
        If comanswer(i) = Val(Mid(Str, j + 1, 1)) Then
            If i = j Then
                checkA += 1
            Else
                checkB += 1
            End If
        End If
    End If
Next
Next
```

- ()25. 「遞迴」程序會呼叫自己的程序。下列程序，使用遞迴來計算 factorial(5)為何?

(A) 120 (B) 1 (C) 0 (D) 24

```
Function factorial(ByVal n As Integer) As Integer
If n <= 1 Then
    Return 1
Else
    Return factorial(n - 1) * n
End If
End Function
```