

國立臺北科技大學九十八學年度碩士班招生考試

系所組別：5301 互動媒體設計研究所甲組

第二節 程式設計 試題

填 准 考 證 號 碼

第一頁 共三頁

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注意事項：

1. 本試題共四題，配分共 100 分。
2. 請標明大題、子題編號作答，不必抄題。
3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

- 一. 作為媒體設計之專業者，常常面對大量的多媒體、圖及文字之搜尋及應用，試設計一個符合你個人使用的「個人數位圖書館」(Personal digital library)，請說明使用需求、系統功能、人機介面及關聯式資料庫結構之理念，並試經三階正規化後呈現關聯圖。(25%)
- 二. 試說明 Sorting 模式及各模式的優缺點。(25%)
- 三. 試分別說明下列資料結構 (Data Structure) 之基本理念(25%)
 - A. Inverted File Structure (4%)
 - B. N-Gram Data Structure (4%)
 - C. PAT Data Structure (4%)
 - D. Signature File Structure (4%)
 - E. Hypertext and XML Data Structure (5%)
 - F. Hidden Markov Models (4%)
- 四. 請解釋下面 Visual Basic 程式的功能為何？並請說明可改善的地方。(25%)

```
Sub main()  
time = Time  
  
Worksheets("首頁").Cells(18, 2).Value = ""  
Total Fee Mean Clear  
Worksheets("首頁").Cells(19, 2).Value = ""  
Total Fee sdv Clear  
  
Worksheets("模擬紀錄").Range("a2:g10000").ClearContents  
  
sim_time = Worksheets("首頁").Cells(2, 2).Value 模擬次數  
  
For k = 2 To sim_time + 1  
Application.Calculation = xlManual  
ChangeInvProd  
  
Worksheets("首頁").Cells(12, 2).Value = k - 1 模擬次數顯現
```

```
Worksheets("模擬紀錄").Cells(k, 1).Value = Worksheets("首頁").Cells(12, 2).Value  
Worksheets("模擬紀錄").Cells(k, 2).Value = Worksheets("首頁").Cells(13, 2).Value  
Worksheets("模擬紀錄").Cells(k, 3).Value = Worksheets("首頁").Cells(14, 2).Value  
Worksheets("模擬紀錄").Cells(k, 4).Value = Worksheets("首頁").Cells(15, 2).Value  
Worksheets("模擬紀錄").Cells(k, 5).Value = Worksheets("首頁").Cells(16, 2).Value  
Worksheets("模擬紀錄").Cells(k, 6).Value = Worksheets("首頁").Cells(17, 2).Value  
Worksheets("模擬紀錄").Cells(k, 7).Value = Worksheets("首頁").Cells(11, 2).Value  
Next k  
  
'顯現模擬後之平均值與標準差  
Worksheets("首頁").Cells(18, 2).Formula = "=sum(模擬紀錄!G2:G" + Trim(Str(sim_time + 1)) + ")"/" + Trim(Str(sim_time))  
Worksheets("首頁").Cells(19, 2).Formula = "=STDEV(模擬紀錄!G1:G" + Trim(Str(sim_time)) + ")"  
ftime = Time
```

```
MsgBox (Str(Int((ftime - stime) * 24 * 60 * 60)) + "秒")  
End Sub
```

```
Sub ChangeInvProd()
```

```
Worksheets("存貨單").Range("B7:N7").ClearContents  
Worksheets("存貨單").Range("B14:N14").ClearContents  
Worksheets("存貨單").Range("B21:N21").ClearContents  
Worksheets("存貨單").Range("B28:N28").ClearContents
```

```
q1Inv10 = Worksheets("首頁").Cells(3, 4).Value '第一季存量  
q1Inv15 = Worksheets("首頁").Cells(3, 5).Value  
q1InvD5 = Worksheets("首頁").Cells(3, 6).Value  
q1InvD10 = Worksheets("首頁").Cells(3, 7).Value
```

```
q2Inv10 = Worksheets("首頁").Cells(4, 4).Value '第二季存量  
q2Inv15 = Worksheets("首頁").Cells(4, 5).Value  
q2InvD5 = Worksheets("首頁").Cells(4, 6).Value  
q2InvD10 = Worksheets("首頁").Cells(4, 7).Value
```

```
q3Inv10 = Worksheets("首頁").Cells(5, 4).Value '第三季存量  
q3Inv15 = Worksheets("首頁").Cells(5, 5).Value  
q3InvD5 = Worksheets("首頁").Cells(5, 6).Value  
q3InvD10 = Worksheets("首頁").Cells(5, 7).Value
```

```
q4Inv10 = Worksheets("首頁").Cells(6, 4).Value '第四季存量  
q4Inv15 = Worksheets("首頁").Cells(6, 5).Value  
q4InvD5 = Worksheets("首頁").Cells(6, 6).Value  
q4InvD10 = Worksheets("首頁").Cells(6, 7).Value
```

```
q1pr10 = Worksheets("首頁").Cells(7, 4).Value '第一季產量  
q1pr15 = Worksheets("首頁").Cells(7, 5).Value  
q1prD5 = Worksheets("首頁").Cells(7, 6).Value  
q1prD10 = Worksheets("首頁").Cells(7, 7).Value
```

```
q2pr10 = Worksheets("首頁").Cells(8, 4).Value '第二季產量  
q2pr15 = Worksheets("首頁").Cells(8, 5).Value  
q2prD5 = Worksheets("首頁").Cells(8, 6).Value  
q2prD10 = Worksheets("首頁").Cells(8, 7).Value
```

```
q3pr10 = Worksheets("首頁").Cells(9, 4).Value '第三季產量  
q3pr15 = Worksheets("首頁").Cells(9, 5).Value  
q3prD5 = Worksheets("首頁").Cells(9, 6).Value  
q3prD10 = Worksheets("首頁").Cells(9, 7).Value
```

```
q4pr10 = Worksheets("首頁").Cells(10, 4).Value '第四季產量  
q4pr15 = Worksheets("首頁").Cells(10, 5).Value  
q4prD5 = Worksheets("首頁").Cells(10, 6).Value  
q4prD10 = Worksheets("首頁").Cells(10, 7).Value
```

```
backorderck = Worksheets("首頁").Cells(11, 4).Value  
wk18check = Worksheets("首頁").Cells(12, 4).Value  
wk48EndInv = Worksheets("首頁").Cells(13, 4).Value  
Application.Calculation = xlManual  
'算過一次
```

```
Application.Calculation = xlAutomatic
```

```
j = 3
```

```
For j = 3 To 14 '第一季
```

注意：背面尚有試題

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```

If Worksheets("存貨單").Cells(6, j).Value < q1InvI10 And Worksheets("存貨單").Cells(7, j - 1).Value = "" And Worksheets("存貨單")
).Cells(3, j).Value < q1prI10 Then
Worksheets("存貨單").Cells(7, j).Value = 10
Elseif Worksheets("存貨單").Cells(6, j).Value < q1InvI5 And Worksheets("存貨單").Cells(7, j - 1).Value = "" And Worksheets("存貨單")
).Cells(3, j).Value < q1prI5 Then
Worksheets("存貨單").Cells(7, j).Value = 5
Elseif Worksheets("存貨單").Cells(6, j).Value > q1InvD10 And Worksheets("存貨單").Cells(7, j - 1).Value = "" And Worksheets("存貨
單").Cells(3, j).Value > q1prD10 Then
Worksheets("存貨單").Cells(7, j).Value = -10
Elseif Worksheets("存貨單").Cells(6, j).Value > q1InvD5 And Worksheets("存貨單").Cells(7, j - 1).Value = "" And Worksheets("存貨
單").Cells(3, j).Value > q1prD5 Then
Worksheets("存貨單").Cells(7, j).Value = -5
End If

```

Next

j = 2

For j = 2 To 14 '第二季

```

If Worksheets("存貨單").Cells(13, j).Value < q2InvI10 And Worksheets("存貨單").Cells(14, j - 1).Value = "" And Worksheets("存貨單")
).Cells(10, j).Value < q2prI10 Then
Worksheets("存貨單").Cells(14, j).Value = 10
Elseif Worksheets("存貨單").Cells(13, j).Value < q2InvI5 And Worksheets("存貨單").Cells(14, j - 1).Value = "" And Worksheets("存貨
單").Cells(10, j).Value < q2prI5 Then
Worksheets("存貨單").Cells(14, j).Value = 5
Elseif Worksheets("存貨單").Cells(13, j).Value > q2InvD10 And Worksheets("存貨單").Cells(14, j - 1).Value = "" And Worksheets("存
貨單").Cells(10, j).Value > q2prD10 Then
Worksheets("存貨單").Cells(14, j).Value = -10
Elseif Worksheets("存貨單").Cells(13, j).Value > q2InvD5 And Worksheets("存貨單").Cells(14, j - 1).Value = "" And Worksheets("存
貨單").Cells(10, j).Value > q2prD5 Then
Worksheets("存貨單").Cells(14, j).Value = -5
End If

```

'存貨小於 27 28 兩週必須量 預先生產

```

If j >= 6 And j < 12 Then
If Worksheets("存貨單").Cells(13, j).Value <= wk18check Then
Worksheets("存貨單").Cells(14, j).Value = 10
End If
End If

```

'24 25 26 周產量更改在 29 周生效

```

If j = 24 Or j = 25 Or j = 26 Then
If Worksheets("存貨單").Cells(13, j).Value <= wk18check Then
Worksheets("存貨單").Cells(21, 4).Value = 10
End If
End If

```

Next

j = 2

For j = 2 To 14 '第三季

```

If Worksheets("存貨單").Cells(20, j).Value < q3InvI10 And Worksheets("存貨單").Cells(21, j - 1).Value = "" And Worksheets("存貨單")
).Cells(17, j).Value < q3prI10 Then
Worksheets("存貨單").Cells(21, j).Value = 10
Elseif Worksheets("存貨單").Cells(20, j).Value < q3InvI5 And Worksheets("存貨單").Cells(21, j - 1).Value = "" And Worksheets("存貨
單").Cells(17, j).Value < q3prI5 Then
Worksheets("存貨單").Cells(21, j).Value = 5
Elseif Worksheets("存貨單").Cells(20, j).Value > q3InvD10 And Worksheets("存貨單").Cells(21, j - 1).Value = "" And Worksheets("存
貨單").Cells(17, j).Value > q3prD10 Then
Worksheets("存貨單").Cells(21, j).Value = -10
Elseif Worksheets("存貨單").Cells(20, j).Value > q3InvD5 And Worksheets("存貨單").Cells(21, j - 1).Value = "" And Worksheets("存
貨單").Cells(17, j).Value > q3prD5 Then
Worksheets("存貨單").Cells(21, j).Value = -5
End If

```

Next

j = 2

For j = 2 To 14 '第四季

```

'50 周後不變更產量
If j < 12 Then

```

```

If Worksheets("存貨單").Cells(27, j).Value < q4InvI10 And Worksheets("存貨單").Cells(28, j - 1).Value = "" And Worksheets("存貨單")
).Cells(24, j).Value < q4prI10 Then
Worksheets("存貨單").Cells(28, j).Value = 10
Elseif Worksheets("存貨單").Cells(27, j).Value < q4InvI5 And Worksheets("存貨單").Cells(28, j - 1).Value = "" And Worksheets("存貨
單").Cells(24, j).Value < q4prI5 Then
Worksheets("存貨單").Cells(28, j).Value = 5
Elseif Worksheets("存貨單").Cells(27, j).Value > q4InvD10 And Worksheets("存貨單").Cells(28, j - 1).Value = "" And Worksheets("存
貨單").Cells(24, j).Value > q4prD10 Then
Worksheets("存貨單").Cells(28, j).Value = -10
Elseif Worksheets("存貨單").Cells(27, j).Value > q4InvD5 And Worksheets("存貨單").Cells(28, j - 1).Value = "" And Worksheets("存
貨單").Cells(24, j).Value > q4prD5 Then
Worksheets("存貨單").Cells(28, j).Value = -5
End If

```

End If

'確保最後存貨

```

If j = 10 Or j = 11 Then

```

```

If Worksheets("存貨單").Cells(27, j).Value < wk48EndInv Then
Worksheets("存貨單").Cells(28, j).Value = 10
End If

```

End If

Next

End Sub

「首頁」樣式

Inventory Simulation Game					
Simulation Times	1	Simulation Policy	0	5	5
Starting Inventory	240	1st Quarter Inv	170	200	400
Starting Production	100	2nd Quarter Inv	220	230	340
End Inventory	240	3rd Quarter Inv	150	180	340
1st Quarter ShipMean	100	4th Quarter Inv	220	230	340
2nd Quarter ShipMean	110	1st Quarter Prod	90	94	104
3rd Quarter ShipMean	110	2nd Quarter Prod	100	104	114
4th Quarter ShipMean	120	3rd Quarter Prod	100	104	114
Shipment sdv.	30	4th Quarter Prod	110	114	124
Monitor Single Fee	302314.42	Back Order			0
Monitor Time	1	18th Wk Check			390
Prod. Change	22500	48 Wk end Inventory			240
Holding Cost	81718.269				
Warehouse C	198096.15				
Back Order C	0				
End Inv.Charge	0				
Total Fee Mean	262241.35				
Total Fee sdv.	#DIV/0!				

「模擬紀錄」樣式

次數	Prod Change	Holding Cost	Warehouse C.	Back Order C	End Inv Charge	Total
1	40000	82936.53846	299192.3077	0	183000	364550

