**MULTIMEDIA** **UNIVERSITY**

STUDENT ID NO

# MULTIMEDIA UNIVERSITY

SECOND TRIMESTER **FINAL** EXAMINATION, **2012/2013 SESSION**

## DPA5018 – PROGRAMMING FOR BUSINESS APPLICATIONS
(For Diploma Students Only)

6 FEBRUARY 2013
2.30 pm – 4.30 pm
(2 Hours)

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**INSTRUCTIONS TO STUDENT**

1. This booklet consists of **THREE** sections in **EIGHT** pages excluding the cover page.

2. Answer **ALL** questions. Please write your answers in the Answer Booklet provided.

*Instruction: Answer ALL questions in the Answer Booklet provided.*

## SECTION A
## [10 MARKS]

**Multiple Choice Questions.**
*Instruction: Choose the best answer.*

1. A graphical depiction of the logical steps to carry out a task and show how the steps relate to each other is called a(n) _____ .

   A. hierarchy chart          C. pseudocode
   B. procedure                D. flowchart

2. Which of the following processes translates the algorithm into a programming language?

   A. Coding                   C. Design
   B. Debugging                D. Analysis

3. Which statement is valid for declaring variable(s)?

   A. Dim Form, myForm As Integer
   B. Dim Form As Integer
   C. Dim Form As Integer, myForm As Integer
   D. All of the above

4. Which *Do...Loop* statement should be used to process test scores where a test score over 100 is a signal to stop the processing?

   A. Do While Score > 100     C. Do While Score >= 100
   B. Do Until Score > 100     D. Do Until Score < 100

5. What will be displayed in text box txtBox after the following statements are executed?

```
Dim Boy as String = "Jack"
Dim Girl as String = "Jill"
txtBox.Text = Boy & " and " & "Girl" & " went up the hill"
```

   A. Nothing, there is an error.
   B. Jack and Jill went up the hill
   C. Jack and Girl went up the hill
   D. and went up the hill

**Continued...**

6. What will be the value of the variable *b* after the following statements are executed?

```
Dim a, b As Double = 3.8
a = 2
b = Int(a + b)
```

A. 5  
B. 5.8  

C. 6  
D. None of the above

7. What will be the value of the variable *x* after the following statement is executed?

```
x = Math.Sqrt((9 + 7) / (4 * 2) + 2)
```

A. 1  
B. 2  

C. 3  
D. 4

8. The *ReDim* statement causes an array to lose its current contents unless the word *ReDim* is followed by the keyword _____.

A. MyBase  
B. CInt  

C. Add  
D. Preserve

9. What will be displayed in text box `txtBox` after the following statements are executed?

```
Dim names(3) As String
Dim strName As String = "Amy"
Dim i As Integer = 0
Dim j As Integer = 0
Dim sr As IO.StreamReader = IO.File.OpenText("name.txt")

Do While i <= 3
   names(i) = sr.ReadLine
   i += 1
Loop

Do While j < 2
   strName = strName & names(j)
   j += 1
Loop
txtBox.Text = strName & sr.ReadLine
```

Assume the five rows of the file *name.txt* contain the following entries:
Ann, Bob, Cathy, Daniel, Eric.

A. AmyAnnBobDaniel  
B. AmyAnnBobEric  

C. AnnBobCathyDaniel  
D. AnnBobCathyEric

**Continued...**

10.    Which of the following statements is false?

A.    A primary key uniquely identifies each record of a table.
B.    A foreign key in one table refers to a primary key in another table.
C.    According to the Rule of Entity Integrity, a record can have a null entry in a primary key.
D.    In database, a table consists of rows called records and columns called fields.

## SECTION B
## [20 MARKS]

**Structured Questions.**
*Instruction: Answer ALL questions.*

## QUESTION 1   [10 MARKS]

a)    Perform the following tasks (i) and (ii) based on the code in Figure 1a.

```
Dim strname As String = "Inquire, Inspire & Innovate"
Dim IntNumChars As Integer
Dim descDiscount As Double
Dim price As Double = 50.0
IntNumChars = strname.Length


If IntNumChars >= 0 And IntNumChars <= 9 Then
    descDiscount = 0.1
ElseIf IntNumChars >= 10 And IntNumChars <= 19 Then
    descDiscount = 0.2
ElseIf IntNumChars >= 20 And IntNumChars <= 29 Then
    descDiscount = 0.3
ElseIf IntNumChars >= 30 Then
    descDiscount = 0.4
Else
    MessageBox.Show("Invalid Data")
End If


MessageBox.Show("Total : " & price * descDiscount)
```

Figure 1a

i) Write the code to convert the *If...Then...Else* statements to *Select Case* statement.                                                                    (6 marks)

ii) Write the output shown in the message box.                          (1 mark)

**Continued...**

b) The following program in Figure 1b converts kilometers to centimeters. The program reads the input from text box txtKM and displays the output in text box txtCM. Identify **THREE** errors in the program and fix the errors by filling in Table 1a below. (3 marks)

```
1   Private Sub btnConvert_Click(...)Handles btnConvert.Click
2       Dim km, cm As Double
3       km = CDbl(txtKM)
4       cm = km / 100000
5       txtCM.Text = cm
6   End Function
```

Figure 1b

| No. | Error Line Number | Correction |
|-----|-------------------|------------|
| i)  |                   |            |
| ii) |                   |            |
| iii)|                   |            |

Table 1a

## QUESTION 2 [10 MARKS]

a) The organizer of XYZ Badminton Competition needs a program to calculate the average height of a badminton team. A team consists of 10 players. The program should allow the user to enter the height of each player using an input dialog box (refer to Figure 2a). After entering the height of 10 players, the program will display the average height of the team (refer to Figure 2b for sample output).
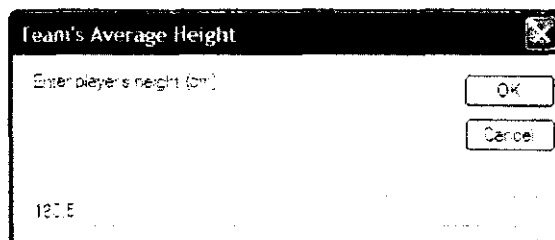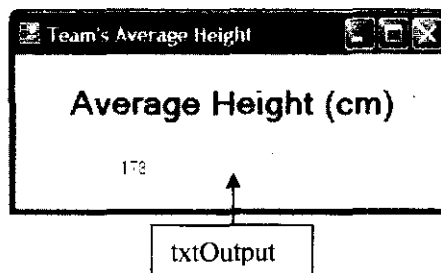


Figure 2a



Figure 2b

**Continued...**

Write the code to perform the following tasks:

i) Create an array *player* of type Double to be used for storing the players' height of a team. (1 mark)

ii) Read the value of height from the input dialog box and store each value into the array *player* using a *For...Next loop*. Calculate the average height of the team and display the result in text box txtOutput. (5 marks)

b) The program in Figure 2c categorizes the numbers from 1 to 10 into two groups which are *Odd* and *Even*. Write the code to display the odd numbers in list box lstOdd and even numbers in list box lstEven. (4 marks)
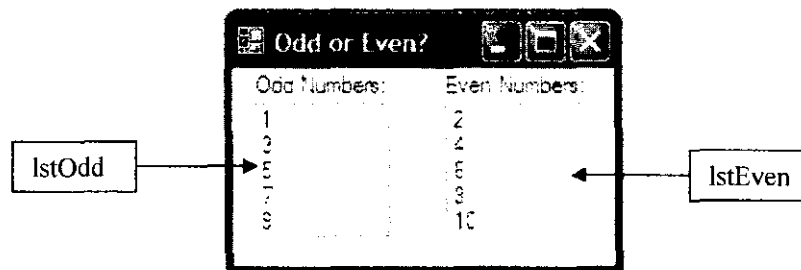


Figure 2c

## SECTION C
## [30 MARKS]

**Programming Question.**
*Instruction: Write the full code.*

HAPPY Zoo sells tickets to the visitors. The ticket includes admission, rides and donation. Table 3a shows the details of the ticket.

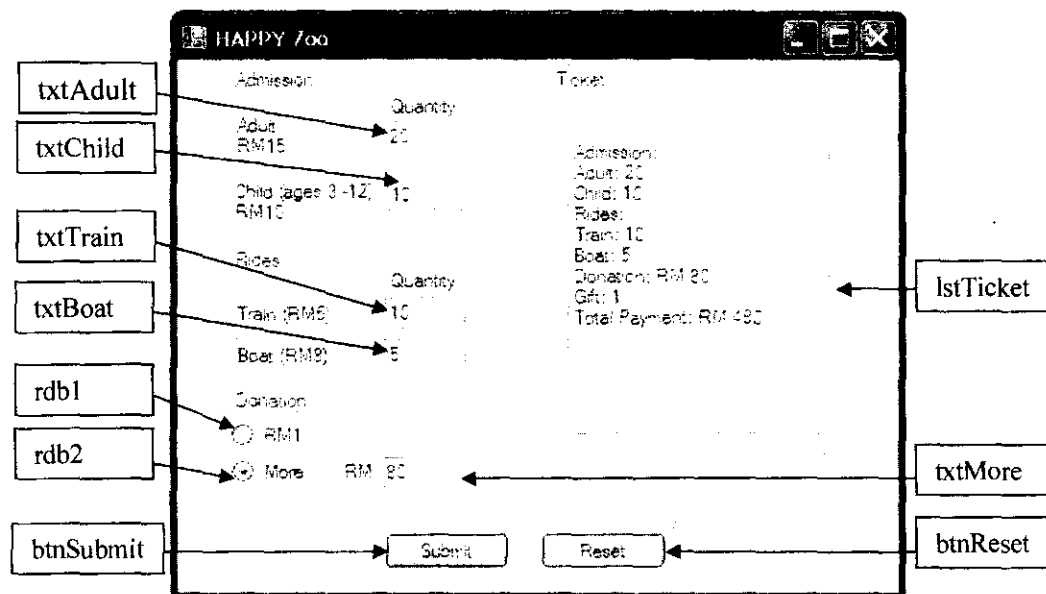| No. | Item | Type | Price | Remarks |
|---|---|---|---|---|
| 1 | Admission | Adult | RM15 | 20% discount on total admission fee for group of 30 or more visitors. |
|  |  | Child (ages 3 - 12) | RM10 |  |
| 2 | Rides | Train | RM5 per ride for one person. |  |
|  |  | Boat | RM8 per ride for one person. |  |
| 3 | Donation (for animal welfare and conservation projects) | Option 1 | RM1 | • Visitor can choose to donate RM1 or more. |
|  |  | Option 2 | More than RM1 | • Special gift for donation of RM50 or more. (One gift for every RM50. For example, one gift for donation of RM50. One gift for donation of RM80. Two gifts for donation of RM100.) |

Table 3a

**Continued...**

Figure 3a

Write a program by referring to Table 3a and the sample output in Figure 3a, with each control's name labeled accordingly. The program should perform the following tasks:

a)  When button btnReset is clicked, call sub procedure Reset() to perform the following jobs:

   • Set the value of all the text boxes to zero (0).

   • Clear list box lstTicket.

b)  When button btnSubmit is clicked, display the following information in list box lstTicket.

   • Total number of adults

   • Total number of children

   • Total number of train rides

   • Total number of boat rides

   • Total amount of donation

   • Total number of gifts

   • Total payment

   The program should have the functions as shown in Table 3b.

**Continued...**

| No. | Function Name | Details |
|-----|---------------|---------|
| 1 | TotalAdmission | Calculates and returns the total admission fee for adult and/or child. |
| 2 | TotalRide | Calculates and returns the total ride fees for train and/or boat. |
| 3 | TotalDonation | Calculates and returns the total amount of donation. (User needs to key in a value in text box txtMore if radio button rdb2 is selected.) |
| 4 | TotalPayment | Calculates and returns the total payment. (Total payment includes *TotalAdmission, TotalRide* and *TotalDonation*). |
| 5 | TotalGift | Calculates and returns the total number of gifts. |

Table 3b

**End of Page.**