UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023

COURSE NAME	:	VISUAL PROGRAMMING
COURSE CODE	:	DAT 21103
PROGRAMME CODE	:	DAT
EXAMINATION DATE	:	JULY / AUGUST 2023
DURATION	:	2 HOURS 30 MINUTES
INSTRUCTION	:	1. ANSWER **ALL** QUESTIONS.
		2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK.**
		3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **NINE (9)** PAGES

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SECTION A (10 MARKS)

Q1   Identify basic objects that would best fit the stated descriptions.

(a)   This object is used to display informative text, and usually not changed during run-time.

(1 mark)

(b)   This object is used to generate a Click event by providing a handler for the event.

(1 mark)

(c)   This object is used to get data or value keyed by user. It allows entering text on a form at runtime. By default, it takes a single line of text, however, you can make it accept multiple texts and even add scroll bars to it.

(1 mark)

(d)   This object is used as a container for other controls (e.g. radio buttons, check boxes). It displays a frame around a group of controls with or without a caption. It also logically group a collection of controls on a form and act as a container control that can be used to define groups of controls.

(1 mark)

(e)   This object allows user to select or deselect one or more options. Checked property stores true (box checked) or false (box unchecked) value.

(1 mark)

(f)   This object is used when only one option of a group may be selected. The singular property of this object that makes it distinct from checkboxes is where the user can select and unselect any number of items.

(1 mark)

(g)   This object control is a looping control used to repeat any task in a given time interval.

(1 mark)

(h)   This control represents the container for the menu structure. It control works as the top-level container for the menu structure. The ToolStripMenuItem class and the ToolStripDropDownMenu class provide the functionalities to create menu items, sub menus and drop-down menus.

(1 mark)

(i)   This control prompts the user to open a file and allows the user to select a file to open. The user can check if the file exists and then open it.

(1 mark)

(j)   This control component can be used to display a short specialized message. It is a small pop-up window that displays some information when you rollover on a control.
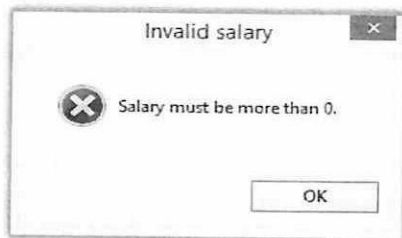
(1 mark)

SECTION B (30 MARKS)

Q2   Distinguish statement that prevents a control from being used.

    A   `txtName.Text = ""`

    B   `btnSubmit.Visible = True`

    C   `btnSubmit.Enabled = False`

    D   `txtName.Focus()`

Q3   Choose the Visual Basic statement that produces shown output.

    A   `MsgBox("Salary must be more than 0.", vbOKOnly + vbCritical, "Invalid salary")`

    B   `MsgBox("Invalid salary", vbOKOnly + vbCritical, " Salary must be more than 0.")`

    C   `MsgBox("Salary must be more than 0.", vbOKOnly , vbCritical, "Invalid salary")`

    D   `MsgBox("Salary must be more than 0.", vbOK + vbCritical, "Invalid salary")`

Q4   Recognize the programming style used in the program segment below.

```
lblMessage.Text = "Hi!" & txtName.Text & ": " & _
"You have been selected to win a prize." & _
"Just send us RM50 for postage and handling."
```

    A   Use double quotation to write a single string.

    B   Use single quotation to handle statement as a comment

    C   Use a line-continuation character for a long Visual Basic statement.

    D   Use a special character to split the Visual Basic statement.

Q5   Determine the value of `intHours` after the following expression is executed if `intTotalMinutes = 150`.

```
intHours = intTotalMinutes\60
```

    A   2.5

    B   2

    C   20

    D   30

Q6 Determine the value of `txtNum.Text` if the following condition evaluates True.

```
txtNum.Text > 0 And txtNum.Text < 20
```

    A   0
    B   19
    C   20
    D   21

Q7 _____ procedure performs actions but does not return a value to calling code.
    A   Sub
    B   Function
    C   Property
    D   Operator

Q8 _____ procedure returns a value to the calling code.
    A   Generic
    B   Event-handling
    C   Function
    D   Get

Q9 Given the following program segment to convert Ringgit Malaysia to Euro. Choose display in `lblEuro` if the value for `txtRM.Text` is 100.

```
Private Sub btnConv_Click(sender As Object,e As EventArgs)_ Handles
btnConv.Click
        Dim ringgit As Decimal
        ringgit = Val(txtRM.Text)
        lblEuro.Text = Format(money_conv(ringgit), "0.00")
End Sub
Private Function money_conv(ByVal RM As Decimal) As Decimal
        money_conv = RM * 0.236
End Function
```

    A   23.6
    B   0.236
    C   23.60
    D   100

Q10 What is the correct statement when declaring and assigning the value of 100 to an Integer variable called `numPeople`.
    A   `Dim numPeople =`
    B   `Dim numPeople = Int(100)`
    C   `numPeople = 100`
    D   `Dim numPeople As Integer = 100`

Q11 Given the following program segment. Determine the output if the values entered into inputbox are 15, 5, and 10.

```
y = 15
For x = 5 To y Step 5
        value = InputBox("Enter value")
        If value <> 10 Then
                If value < 15 then
                        MsgBox ("Super")
                Else
                        MsgBox("High")
                End If
        Else
                MsgBox("Quality")
        End If
Next
```

A   Super, High, Quality
B   High, Super, Quality
C   Quality, Super, High
D   High, Quality, Super

Q12 Choose the statement that gets the number of items in a list box named `lstName`.
A   `lstName.Count`
B   `Items.Count`
C   `lstName.Count.Items`
D   `lstName.Items.Count`

Q13 Identify the value of `StudScore(2)` in the following program segment.

```
Dim StudScore(4) As Integer
StudScore = {98, 97, 96, 95, 94}
```

A   98
B   97
C   96
D   95

Q14 Given the following two-dimensional array. Choose the value of `lblDisplay.Text`.

```
Dim mytable(,) As Integer = New Integer(,) {{1,2}, {3,5}}
lblDisplay.Text = mytable(1, 1)
```

A   1
B   2
C   3
D   5

Q15 Each occurrence of an entity in a table is called a row or a _____.
A   field
B   connection
C   record
D   primary key

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Q16   A table feature for the number of characters that can be stored in each text field is known as
_____.
   A   field length
   B   data type
   C   file size
   D   referential integrity

Q17   Identify the properties of a database that must contain a connection object.
   A   Location and Query
   B   Location and Type
   C   Query and Command
   D   Location and Query

Q18   Choose the keyword to add a new row to a database table in an SQL statement.
   A   SELECT
   B   UPDATE
   C   INSERT
   D   DELETE

Q19   The following are advantages of input validation **EXCEPT** _____.
   A   prevent user from submitting a blank value for an optional input or selection
   B   prevent user from submitting an invalid value
   C   prevent user from submitting a string value that is not of required length
   D   prevent user from circumventing validation by pasting text

Q20   Identify the **FALSE** statement regarding exception handling.
   A   The exception class represents errors that occur during application execution.
   B   When an exception is found, an Exception object is created.
   C   Logic error should be addressed through exception handling.
   D   Not all errors should be handled as exceptions in your code.

Q21   Identify the purpose of an SQL command object.
   A   Allow users to interact with another user.
   B   Allow users to interact with the Dataset.
   C   Allow users to interact with the server.
   D   Allow users to interact with the database.

Q22   ADO.NET provides communication between _____.
   A   Dataset and Data source
   B   Data object and Dataset
   C   Dataset and Database
   D   Data object and Data source

Q23   Find the term used for each individual variable in an array.
   A   Subscript
   B   Element
   C   Subscript of variable
   D   Index

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Q24 Select the term that relates tables in a database.
A Super key
B Primary key
C Composite key
D Foreign key

Q25 Determine the term that group related web pages.
A Web crawler
B Web server
C Web browser
D Web site

Q26 Choose the **FALSE** statement about elements in an array.
A Same name
B Same index
C Same data type
D Different subscript

Q27 Data values that stay the same every time a program is executed are known as _____ .
A numeric
B constant
C String
D Boolean

Q28 _____ is an event that moves the focus to the specified control or form.
A GotFocus
B SetFocus
C LostFocus
D TabStop

Q29 The function procedure is _____ by default.
A private
B protected
C friend
D public

Q30 Identify the method which loads the form into memory and displays it on screen.
A Load
B Display
C Activate
D Show

Q31 A _____ variable is one that is declared inside a procedure.
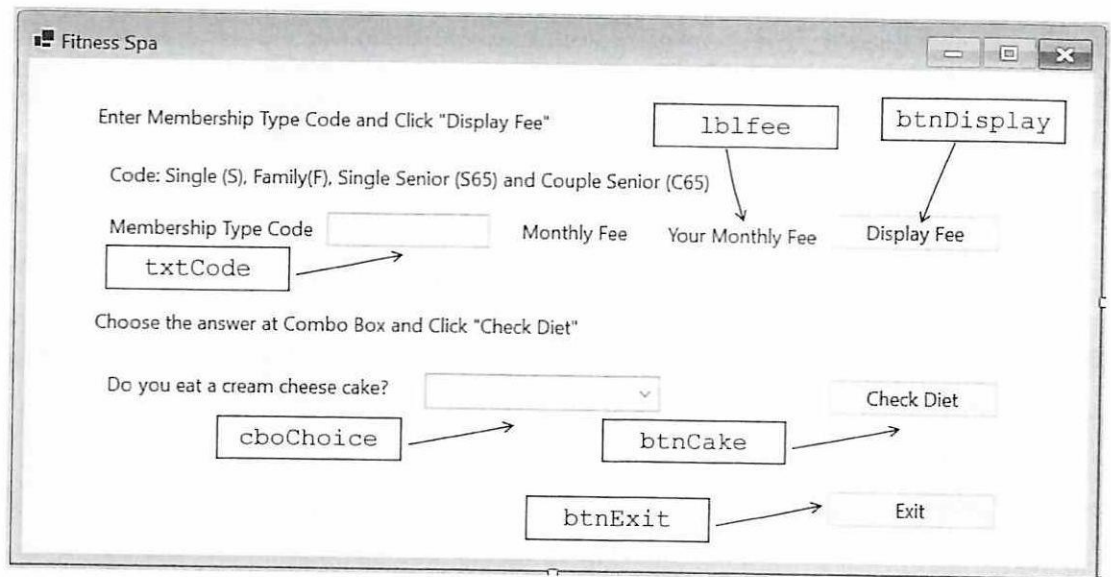A local
B global
C public
D private

SECTION C (60 MARKS)

Q32 (a) Differentiate between each of the following controls.
   (i) RadioButton and CheckBox
   (ii) ListBox and ComboBox

(4 marks)

(b) Differentiate between each of the following properties.
   (i) Enabled and Visible
   (ii) TabIndex and TabStop

(4 marks)

(c) Draw the interface for an international clothing size conversion program that determines a user's clothing size in the UK, Europe, Japan and Australia based on the user's US's clothing size. The requirements are as follows.
   (i) Options to select US's clothing size. There are 10 sizes.
   (ii) Display the converted clothing size in the UK, Europe, Japan and Australia with a click of a button.

(6 marks)

(d) Based on your drawing in **Q32(c),** suggest another suitable control to select the US's clothing size. Justify your answer.

(3 marks)

(e) Discuss whether it is suitable to use text boxes to display conversions in **Q32(c).**

(3 marks)

Q33 (a) Explain the importance of input validations in visual programming.

(5 marks)

(b) Determine the **FOUR (4)** basic types of validation test.

(8 marks)

(c) Explain Exception Handling.

(3 marks)

(d) Differentiate between error trapping and error handling

(4 marks)

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Q34 (a)   Figure below shows the interface of an application for a gym.

(i)   Write the code for `btnDisplay` click event procedure. Display monthly fee in `lblfee` based on membership type code entered in `txtCode` using the If statement. Monthly fee is based on the **Table Q34(a)**. Set monthly fee for each type of membership as constant.

Table Q34(a): Membership Fee

MEMBERSHIP TYPE CODE	MONTHLY FEE
Single (S)	40
Family (F)	50
Single Senior (S65)	30
Couple Senior (C65)	35

(12 marks)

(ii)   Write the code for `btnCake` click event procedure. Using Select Case statement, a message box displays "Diet Ruined" if the user chose Eaten from the `cboChoice`, "Diet Not Ruined" if they chose Not Eaten, and "Diet not tested" if they did not choose anything.

(8 marks)

- END OF QUESTIONS -

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