UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024

COURSE NAME : VISUAL PROGRAMMING

COURSE CODE : DAT 21103

PROGRAMME CODE : DAT

EXAMINATION DATE : JULY 2024

DURATION : 2 HOURS 30 MINUTES

INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA
   ☐ Open book
   ☒ 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 **FIVE (5)** PAGES

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Q1 (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) **Table Q1.1** shows an International Clothing Size Chart. 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.

Table Q1.1 International Clothing Size Chart

OUR SIZE	USA & CANADA	UK	EUROPE	JAPAN	AUSTRALIA
34 (XXS)	2	4	32	5	6
36 (XS)	4	6	34	7	8
38 (S)	6	8	36	9	10
40 (M)	8	10	38	11	12
42 (L)	10	12	40	13	14
44 (XL)	12	14	42	15	16
46 (2XL)	14	16	44	17	18
48 (3XL)	16	18	46	19	20
50 (4XL)	18	20	48	21	22
52 (5XL)	20	22	50	23	24

The requirements are as follows.

(i) Options to select US's clothing size. There are 10 sizes.

(6 marks)

(ii) Display the converted clothing size in the UK, Europe, Japan and Australia with a click of a button.

(5 marks)

(d) Based on your drawing in **Q1(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 **Q1(c)**.

(3 marks)

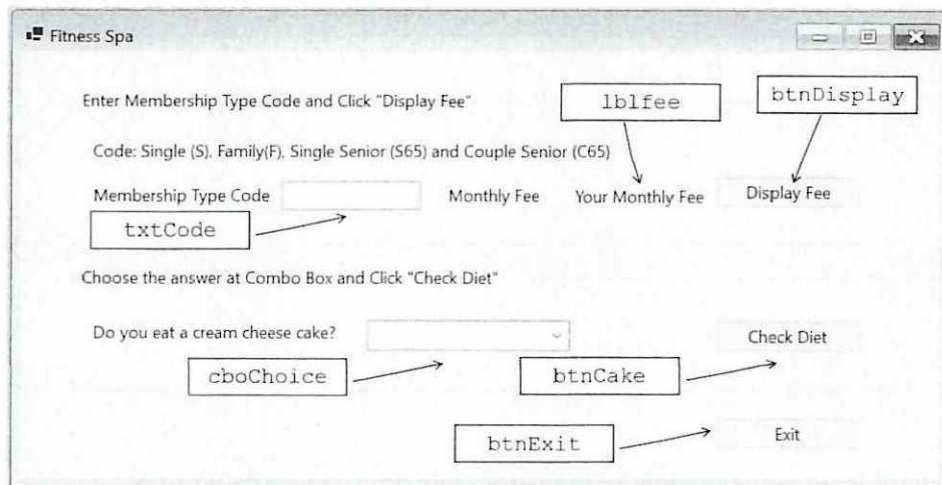**Q2**   (a)   **Figure Q2.1** shows the interface of an application for a gym application.

Figure Q2.1 Gym Application Interface

(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 **Table Q2.1** provided. Set monthly fee for each type of membership as constant.

Table Q2.1 Monthly Membership Fees

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

(15 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.

(10 marks)

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Q3 (a) Identify basic objects that would best fit the stated descriptions.

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

(1 mark)

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

(1 mark)

(iii) 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)

(iv) 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)

(v) 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)

(vi) 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)

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

(1 mark)

(viii) 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)

(ix) 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)

(x) 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)

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(b)   Discuss the importance of input validations in visual programming.

(4 marks)

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

(4 marks)

(d)   Explain Exception Handling.

(3 marks)

(e)   Differentiate between error trapping and error handling

(4 marks)

Q4   You are required to create a project that will display the name and telephone number of the contact person for the customer relations, marketing, order processing and shipping departments. You are also required to include a button for each department. When the button is clicked, it will display the name and telephone number of the contact person in two labels. You are also needed to include identifying labels with text Department Contact and Telephone Number. Be sure to include a button for Exit, and a label that holds your name at the bottom of the form. The company name is VB Mail Order and set it on the title bar of the form you create. The list of Department contact person and number is as **Table Q4.1**.

Table Q4.1 List of Department Contact Person and Number

Department	Contact Person	Telephone Number
Customer Relations	Abdul Wafi	06-4563456
Marketing	Nur Ameera Adriana	06-4532786
Order Processing	Tun Darwish Naufal	06-4554532
Shipping	Syahmi Raziq	06-4576542

(a)   Sketch the graphical user interface for all forms and controls for the expected interaction between the user and the application.

(10 marks)

(b)   State the name for each object.

(5 marks)

(c)   Indicate the name you plan to give to the object.

(5 marks)

(d)   State the text properties you plan to set for the object.

(5 marks)

- END OF QUESTIONS -

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