



UNIVERSITY OF GHANA

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B.SC INFORMATION TECHNOLOGY, FIRST SEMESTER EXAMINATIONS:

2017/2018

DEPARTMENT OF COMPUTER SCIENCE

CSIT315: EVENT-DRIVEN PROGRAMMING (3 CREDITS)

INSTRUCTIONS:

Section A: Answer ALL Questions in Section A

Section B: Answer Question One and any other two Questions in Section B.

TIME ALLOWED: TWO AND A HALF (2½) HOURS

SECTION A

Answer ALL Questions in this Section

1. A **case** can be labeled as _____ to execute in the event that none of the provided cases are equivalent to the controlling expression.

Which of the following statements is *false*?

a. **Case** statements use the keyword **Is** to determine whether the controlling expression satisfies a condition.

b. Multiple values can be tested in a **Case** statement where the values are separated by commas.

c. Multiple values in a range can be tested using the **To** keyword.

d. None of the above

1. Which of the following statements about the **Continue** statement is *true*?

a. The Continue statement is used to exit a repetition statement early and continue execution after the loop.

b. b) The Continue statement is used to continue after a Select...Case statement.

- c. c) The Continue statement does not alter the flow of control.
- d. d) A Continue statement proceeds with the next iteration of the immediately enclosing repetition statement.

1. Rectangular arrays are often used to represent tables of values consisting of information arranged in:

- a. rows
- b. columns
- c. both (a) and (b)
- d. None of the above

1. An array with m rows and n columns is not:

- I. An m -by- n array.
- II. An n -by- m array.
- III. A two-dimensional array.
- IV. A dual-transcripted array.

- a. I and III
- b. I and IV
- c. II and IV
- d. II and III

1. The purpose of the Visual Basic Express Edition IDE is to

a. create programs.

b. run programs.

c. debug programs.

d. All of the above.

1. Which statements successfully swap the contents of an array at index 3 and index 4?

a)

values(3) = values(4)

values(4) = values(3)

b)

values(4) = values(3)

values(3) = values(4)

c)

```
Dim temp As Integer = values( 3 )
```

```
values( 3 ) = values( 4 )
```

```
values( 4 ) = temp;
```

d)

```
Dim temp As Integer = values( 3 )
```

```
values( 3 ) = values( 4 )
```

```
values( 4 ) = values( 3 )
```

1. LINQ uses a technique called _____—a query executes only when you iterate over the results, not when the query is defined. This allows you to create a query once and execute it many times.

- a. late binding
- b. dynamic binding
- c. iteration delay
- d. deferred execution

1. Which statement is true when a base class has **Protected** instance variables?

- a. A derived class object can assign an invalid value to the base class's **Protected** instance variables.
- b. Derived class methods can depend on the base class's **Protected** data implementation.
- c. Derived classes would need to be modified if the base class's **Protected** data implementation changes.
- d. All of the above.

1. A _____ is a window used to communicate with users.

- a. project
- b. control
- c. dialog
- d. None of the above.

1. The Microsoft Developers Network (MSDN) online library provides:

- a. tutorials
- b. articles
- c. downloads
- d. All of the above.

1. Visual Studio provides _____ pertaining to the “current content” (that is, the terms around the location of the mouse cursor).

- a. content-sensitive help
- b. context-sensitive help
- c. location-sensitive help
- d. mouse-sensitive help

1. Which of the following is not true about GUIs? _____

- a. GUIs allow users to interact visually with programs.
- b. A GUI gives a program a distinctive look and feel.
- c. Scrollbars are always present in GUIs.
- d. GUIs are built from GUI controls called widgets.

1. A comment in Visual Basic begins with:

- a) */
- b) '**
- c) //
- d) **

1. _____ are violations of language rules.

- a. Logic errors
- b. Syntax errors
- c. Run-time errors
- d. None of the above.

1. The following pair can be used to begin and end a method declaration:

- a. Sub, End Sub**
- b. Open Sub, Close Sub**
- c. Pro, End Pro**
- d. Procedure, End Procedure**

1. When the user interacts with a GUI component, the interaction, known as a(n) _____, causes the program to perform a task by “calling” a method.

- a. driver**
- b. action**
- c. event**
- d. cause**

1. Form's _____ event occurs just before the Form is displayed on the screen, typically as a result of executing the program.

- a) Display**
- b) Raised**
- c) Execute**
- d) Load**

1. A Textbox's _____ property can be used to change the text that's displayed in a Textbox.

- a. Content
- b. String
- c. Data
- d. Text

1. Variable declarations can begin with:

- a. Declare
- b. Dim
- c. Dec
- d. As

1. Data types already defined in Visual Basic, such as String and Integer, are known as _____

- a. Constant data types
- b. Pre data types
- c. Primitive data types
- d. Standard data types

1. Which of the following is a valid declaration in Visual Basic?

- a. Int number
- b. Dim Integer number
- c. Dim number = Integer
- d. Dim number As Integer

1. Which of the following is not a control statement?

- a. Do...Loop While
- b. While...Do Loop
- c. Select...Case
- d. For...Next

1. Which of the following is not required for counter-controlled repetition?

- a. the special value -1 to mark the end of data input
- b. initial value of the control variable
- c. increment or decrement by which the control variable is modified each time through the loop
- d. condition that tests for the final value of the control variable.

1. Counting loops should be controlled with values.

- a. Double**
- b. Integer**

- c. Char
- d. None of the above.

1. It is a logic error to have a positive increment in a For...Next loop that is supposed to loop 10 times when the initial value of the control variable is the final value.

- a. greater than
- b. less than
- c. equal to
- d. greater or less than

1. Methods are called by writing the name of the method followed by enclosed in parentheses.

- a. a condition
- b. arguments
- c. a counter
- d. None of the above.

1. Subroutines are _____.

- a) methods that can be called only once

- b) methods that cannot be called with arguments
- c) methods that do not return a value
- d) methods that return an optional value

1. _____ causes the compiler to check all conversions and requires you to perform all narrowing conversions explicitly

- a. Option Explicit**
- b. Option Strict**
- c. Option Convert**
- d. None of the above**

1. Arrays may have dimensions.

- a. one
- b. two
- c. any number of
- d. a or b

1. Which of the following statements about arrays are true?

- I. Arrays are groups of variables that all have the same type.
- II. Elements are located by index
- III. The length of an array **c** is determined by the expression **c.Length**.
- IV. The zeroth element of array **c** is specified by **c(0)**.

- a. I, III, and IV.
- b. I, II, and IV.
- c. both III and IV.
- d. I, II, III, and IV.

Section B

Answer Question One and any other two Questions in this Section

1. Study each question carefully before you attempt to answer it

a. From a window's **Form's load event**, how will you set the date of a **DateTime Picker** to today's date [2 Marks]

a. Create a method with name **ResetEntres** and in it, code to ensure that a textbox must contain text [3 Marks]

b. From the click event of a button called **btnCancel**, call the method you created in b) above [3 Marks]

a. Create a function with name **EntriesValidated** which must return a Boolean result. [2 Marks]

a. Do the following in the **EntriesValidated** function using visual basic codes

1. Write VB codes that will check for numeric value in a textbox. Add a mes

sage to prompt the user to provide numeric data [2 Marks]

1. Write VB codes that ensures that a valid date is captured. Your code should terminate the execution after invalid date entry checks

[3 Marks]

1. In the **EntriesValidated** function calculate the approximate age of a person based on the date of birth

[4 Marks]

1. From a button's default event method, call the function **EntriesValidated** with **IF Then** statement such that the execution terminates if there are invalid entries in the function [4 Marks]

a. Explain the difference between a subroutine and a function [4 Marks]

a. Under what circumstance will you use the form's **Load** event

[3 Marks]

1. Write a Visual Basic statement to accomplish each of the following tasks

a. Declare two variables with names **intA** and **intB** for any numeric datatype

[2 Marks]

a. Assign any number less than 10 to the variable **intA** and any number greater than 10 to **intB**

[2 Marks]

a. Total variables **intA** and **intB**, and assign the result to variable **intA**

[2 Marks]

a. Display "The sum is: " followed by the value of variable **intA** in **resultLabel**

[2 Marks]

a. Write visual basic codes to compare the variables **intA** and **intB** using

- I. Equal to [2 Marks]
- II. Not equal to [2 Marks]
- III. Greater than [2 Marks]
- IV. Greater than or equal to [2 Marks]
- V. Less than [2 Marks]
- VI. Less than or equal to [2 Marks]

1. a) While in *run mode*, programmers have access to all the environment windows. Do you agree to this statement? Explain why [3 Marks]

]

b) Study the codes below and the answer the questions

- a. `Dim temp As Integer`
- b. `temp = 200`
- c. `If temp > 180 Then`
- d. `resultLabel.Text = "This porridge is too cold."`
- e. `End If`
- f. `If temp > 90 Then`
- g. `resultLabel.Text = "This porridge is too hot."`
- h. `End If`


```

i. If temp < 70 Then
j.     resultLabel.Text = "This porridge is too cold."
k. End If
l. If temp = 80 Then
m.     resultLabel.Text= "This porridge is just right!"
n. End If

```

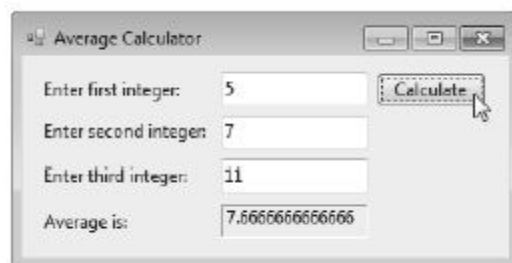
b(I) What is output in the GUI of the above Visual Basic code [2 Marks]

b(II) Explain the reason for your answer [2 Marks]

b(III) Write a valid visual basic code that will combine lines (a) and (b) above in to one single line [2 Marks]

c) Study the image below and write visual basic codes that will out put the average of any three integers as shown in the image upon clicking the **Calculate** button

[11 Marks]



1. Write a statement or a set of statements to accomplish each of the following:

a. Sum the odd integers between 1 and 15 using a **While** statement. Use Integer variables **sum** and **count**.

[5 Marks]

a. Sum the squares of the even integers between 1 and 15 using a **Do While...Loop** repetition statement. Use Integer variables **sum** and **count** and initialize them to 0 and 2, respectively.

[5 Marks]

a. Display the numbers from 5 to 1 in **resultListBox** using a **Do Until ... Loop** and Integer counter variable **counterIndex**. Initialize **counterIndex** to 5.

[5 Marks]

a. Repeat Exercise 4.4 (c) using a **Do While...Loop** statement

[5 Marks]

1. What is the difference between a solution and a project?

[2 Marks]

- a. Explain what the optional **Step** keyword does in a **For... N**
ext loop

[2 Marks]

- a. Write a visual basic code to display a warning message.
The message box should have a title, predefined Yes/No buttons, Icon and must beep

[2 Marks]

- a. Explain the difference between **ByVal** and **ByRef** in visual
basic programming method

[2 Marks]

- a. Explain the difference between **Option Explicit** and **Option**
Strict

[2 Marks]

- a. Write a visual basic **Function** that accepts integer as input
parameter and returns its base 2 equivalent

[10 Marks]

