

FINAL SEMESTER EXAMINATION

Programme	:	DIPLOMA IN E-BUSINESS TECHNOLOGY DIPLOMA IN COMPUTER SCIENCE
Course	:	VISUAL PROGRAMMING
Course Code	:	DEB2134 DCS2363
Duration	:	3 hours

INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY**.
2. This question paper consists of **FOUR (4)** questions.
3. Answer **ALL** questions in the question paper.
4. Answers to the questions are to be written into the examination booklet.
5. Electronic dictionaries, lecture notes, files or any unauthorised materials except writing equipment are strictly prohibited.

This question paper must be submitted along with all used and/or unused rough papers and/ or graph papers (if any). Candidates are **NOT ALLOWED** to take any examination paper(s) used or unused out of the examination hall.

WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a very serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in the accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

(This booklet contains 6 printed pages including this page)

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For examiner's use only

QUESTION NO.	MARKS
1	/ 25
2	/ 25
3	/ 25
4	/ 25
Total	/ 100

Answer **ALL** questions on the separate sheet provided.

[100 marks]

1. a) Discuss **THREE (3)** characteristics of counter-controlled loop. (6 marks)

- b) Question 1(b)(i) and 1(b)(ii) are based on Figure 1.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Countercontrolledloop
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int newinitialsum = 5, counter = 0;

            while(counter < 6)
            {
                newinitialsum = newinitialsum + counter;
                ++counter;
            }
            Console.WriteLine("The sum is {0}", newinitialsum);
        }
    }
}
```

Figure 1

- i) Identify the value in each row based on the program in Figure 1. (10 marks)

counter	newinitialsum
(a)	(b)
(c)	(d)
2	8
(e)	(f)
(g)	(h)
(i)	(j)

- ii) Justify what happens when the `counter = 6`. (4 marks)

- c) Illustrate the output of complete windows form based on the C# code snippet shown in Figure 2. (5 marks)

```
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace Finalexammay22wf
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
            int counter = 0;
            string result = "\tn      Squared\n";

            while (counter < 2)
            {
                counter++;
                result += "\t" + counter + "\t" + Math.Pow(counter, 2) + "\n";
            }
            MessageBox.Show(result, "Output");
        }
    }
}
```

Figure 2

Total: [25 marks]

2. a) i) Write a C# code snippet by implementing array based on the output shown in Figure 3. (4 marks)

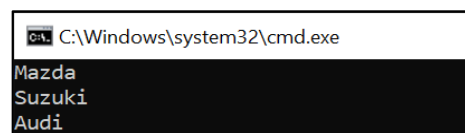


Figure 3

- ii) Based on C# code snippet shown in Figure 4, determine the output. (3 marks)

```
double[] num = {11300,85.5,100.333};

foreach(double value in num)
{
    Console.WriteLine(value);
}
```

Figure 4

- b) Write a C# code snippet implementing the array knowledge to get the output as shown in Figure 5. (8 marks)

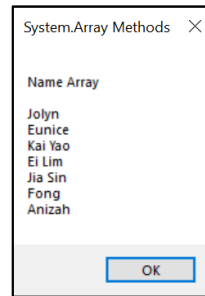


Figure 5

- c) Question 2(c)(i) and 2(c)(ii) based on Figure 6.

```
namespace ArrayMethodArgument
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            string[] name = {"Jolyn", "Eunice", "Kai Yao", "Ei Lim",
                             "Jia Sin", "Fong", "Anizah"};
            string outputMsg = "";
            string header = "System.Array Methods";
            string[] newname = new string[10];

            Array.Copy(name, 1, newname, 0, 5);

            Array.Sort(newname);
            outputMsg = "Array Newname Sorted";
            foreach (string value in newname)
            {
                outputMsg += value + "\n";
            }
            MessageBox.Show(outputMsg, header);
        }
    }
}
```

Figure 6

- i) Illustrate the output of windows form for the C# code snippet shown in Figure 6. (7 marks)
- ii) Explain the relationship between name, 1, newname, 0, and 5 in the array method `Array.Copy(name, 1, newname, 0, 5)`. (3 marks)

Total: [25 marks]

3. a) Question 3(a)(i) until 3(a)(iii) are based on Figure 7.

Figure 7

- i) Identify all the Items in the ComboBox in Figure 7. (6 marks)
- ii) State **THREE (3)** control objects used to create the form. (3 marks)
- iii) Based on the control objects found in **3(a)(ii)**, describe the function of each control object. (6 marks)
- b) Design a windows form interface using the following information: (10 marks)

Object	Description
Form Title	Pizza Ordering System
CheckBox Label	Topping
CheckBox Items	Cheese Pineapple Tuna Chicken
RadioButton Label	Drinks
RadioButton Items	Sprite Coke Plain Water Mountain Dew
TextBox Label	Order Summary
TextBox Items	(Can fill any relevant items / can be blank)
Button	Submit Order

Total: [25 marks]

4. a) Draw **ONE (1)** access database table consisting **THREE (3)** dummy data related to buyer name, buyer ID, house type, house price, and interest rate. (9 marks)
- b) Based on the database table in **4(a)**, state the suitable data type for each attribute. (5 marks)

Attribute	Data Type
Buyer name	(i)
Buyer ID	(ii)
House type	(iii)
House price	(iv)
Interest rate	(v)

- c) Question 4(c)(i) until 4(c)(iii) based on Figure 8.

Customers				
	ID	First Name	Last Name	Street Address
+	1	Tracey	Beckham	7 East Walker Dr.
+	2	Lucinda	George	789 Brewer St.
+	3	Jerrold	Smith	211 St. George Ave.
+	4	Brett	Newkirk	47 Hillsborough St.
+	5	Chloe	Jones	23 Solo Ln.
+	6	Quinton	Boyd	4 Cypress Cr.
+	7	Alex	Hinton	1011 Hodge Ln.
+	8	Nisha	Hall	123 Huntington St.
+	9	Hillary	Clayton	2516 Newman
+	10	Klara	Williams	9014 Miller Ln.
+	11	Katy	Jones	456 Denver Rd.
+	12	Beatrice	Joslin	85 North West St.
+	13	Mariah	Allen	12 Jupe

Figure 8

- i) Write an SQL query to fetch number of customers. (3 marks)
- ii) Write an SQL query to display customer's ID, first name, last name, and street address for the customer who has last name 'Williams'. (3 marks)
- iii) Write an SQL query to delete the details of customer named Nisha from the database table. (2 marks)
- d) List **THREE (3)** examples of Database Management System (DBMS). (3 marks)

Total: [25 marks]

- END OF QUESTIONS -