UVA WELLASSA UNIVERSITY, Sri Lanka

End Semester Examination –June/July 2010

EMG 323-2 Computer Programming and Application

Time Allowed: One and half hour (1 ½)

Total 02 Questions.

Answer all questions. Upload your answers to the Course Management System (CMS).

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1) Write a function in C++ to solve a quadratic equation.

Write a program to input positive integers for a, b, and c in the main program and pass the values of a, b, c to the function, solve the quadratic equation and then display the solution using the written function.

The solution of the quadratic equation $ax^2 + bx + c = 0$ is

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

(40 Marks)

2) A salesperson earns a weekly base salary plus a commission when sales are greater than or equal to quota. Create a project that allows the user to input the weekly sales and the sales person name, calculates the commission, and displays summary information.

User Interface: The User Interface should have text boxes for the salesperson name and his or her weekly sales.

Add a menu bar to the interface with the following menu items.

File	Edit	Help
Pay	Clear (Alt+L)	About (Alt+A)
Summary (Alt+S)	———	
Exit (Alt+E)	Color	
	Font	

Use constants to establish the Base pay, the quota, and the commission rate as follows.

Quota = 1000 **Commission rate** = 0.15 **Base Pay** = Rs 1000

Write codes to perform the following tasks.

I. Write a function procedure to calculate the commission.
Commission = Sales × Commission rate

II. The *Pay* menu item calculates and displays the commission and the total pay for that person in label. Format the total pay to two decimal places and display the amount with the "Rs" symbol. However, if there is no commission, do not display the commission amount (do not display a zero commission amount).
Use the function procedure you wrote in Part I to calculate the commission.
Total pay = Base pay + Commission

III. The *Clear* menu item clears the names, sales, and pay for the current employee.

IV. The *Summary* menu item displays a message box containing total sales, total commission, and total pay for all sales persons.

V. The *Color* and *Font* menu items should change the color and font of the information displayed in the total amount earned label.

VI. Use a message box to display the program name and your name as programmer for the *About* option on the Help menu.

VII. Include access keys to Exit (Alt+E) , Summary (Alt+S), Clear (Alt+L), About (Alt+A) menu items.

VIII. When the *Exit* menu item is selected it should close the form.

Test Data

Name	Sales (Rs)
H.A.Kumari	2000.00
A.K.Kasun	1000.00
S.D.Sadun	800.00

Total should be:

Sales	Rs 3800.00
Commission	Rs 450.00
Pay	Rs 3450.00

(60 Marks)

30