THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

JANUARY – APRIL 2020 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

CMT 307: NET PROGRAMMING
(Education, Maths, Actuarial Science)

Date: APRIL 2020	Duration: 2 Hours
INSTRUCTIONS: Answer Question ONE and any other TWO Questions	

Save all the questions in a folder (**named**; *your admission number*) on the **desktop**. Create **sub folders** for all the questions namely; Question 1a, Question 1b, Question 2a etc. Save the answers for Question 1a in a word document. The others should be visual basic .net documents.
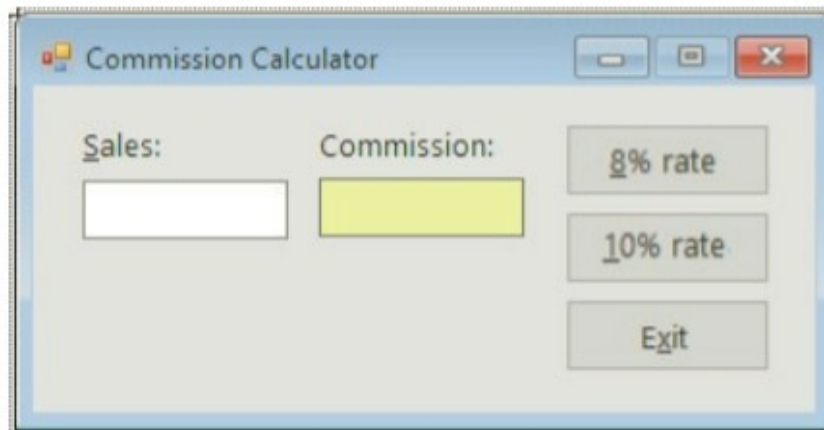
Q1.   a)   Define the following terms explaining their meaning
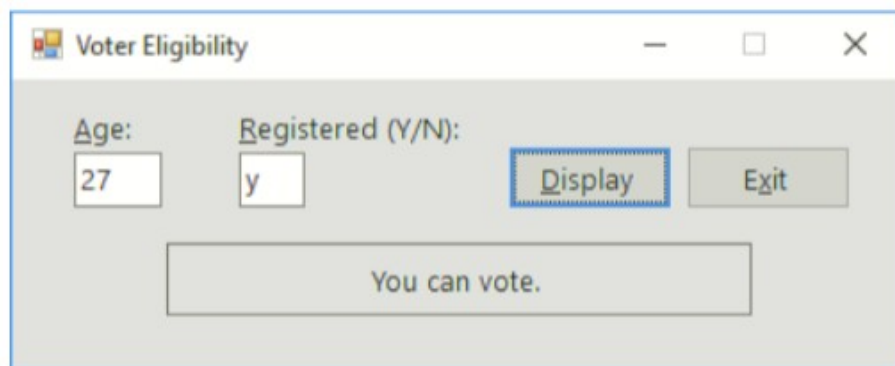
      i)   Variable   **(2 Marks)**

      ii)   TryParse Method   **(2 Marks)**

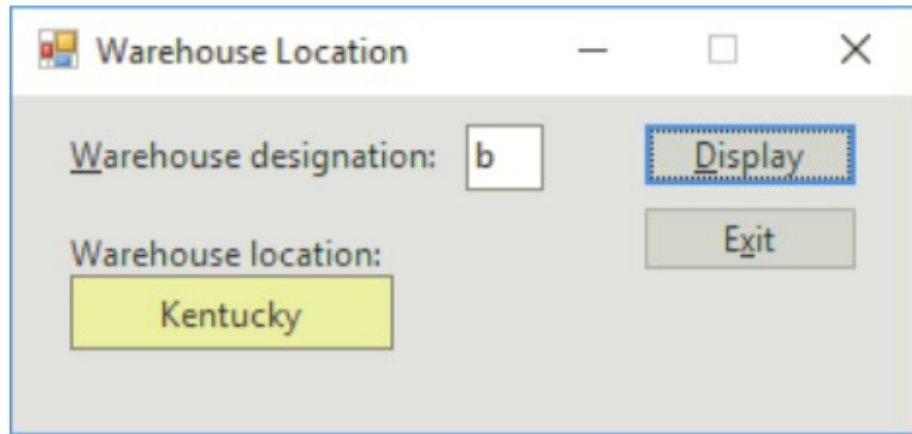   iii)   ToString Method   **(2 Marks)**

b) The Commission Calculator application illustrates the use of procedure-level variables. As the interface shown in the Figure below, the application displays the amount of a salesperson's commission. The commission is calculated by multiplying the salesperson's sales by the appropriate commission rate: either 8% or 10%. Build the application giving relevant names to your controls and code for the three buttons as required.   **(8 Marks)**

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c) Build the application below; it should prompt for the user's age and whether he/she has registered. If age is over 18 and has registered, the label should display "You can vote". If age is over 18 and has not registered, the label should display " You need to register to vote". If the age is not over 18 it should display " You are underage to vote" Use relevant names for all your controls. **(8 Marks)**
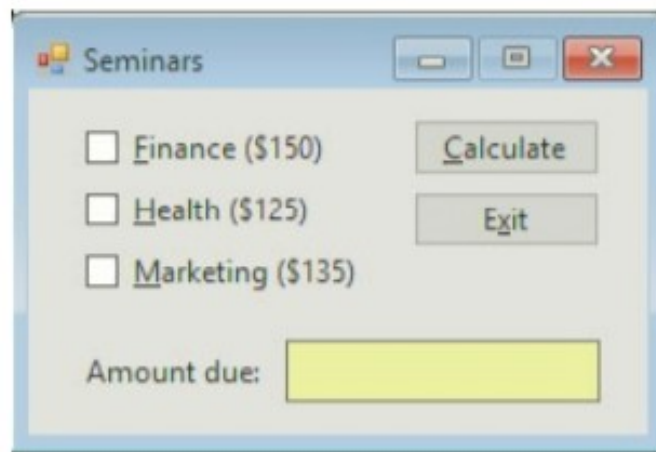

d) The application below prompt's the users' for a Warehouse (i.e. A, B, C or D). If the user responds with A, Warehouse location should display Tennessee, if B, Warehouse location should display Kentucky and if C or D should display Louisiana. If the user's age is over 18 and has registered, the label should display "You can vote". If age is over 18 and has not registered, the label should display " You need to register to vote". If the age is not over 18 it should display " You are underage to vote" Use relevant names for all your controls. **(8 Marks)**
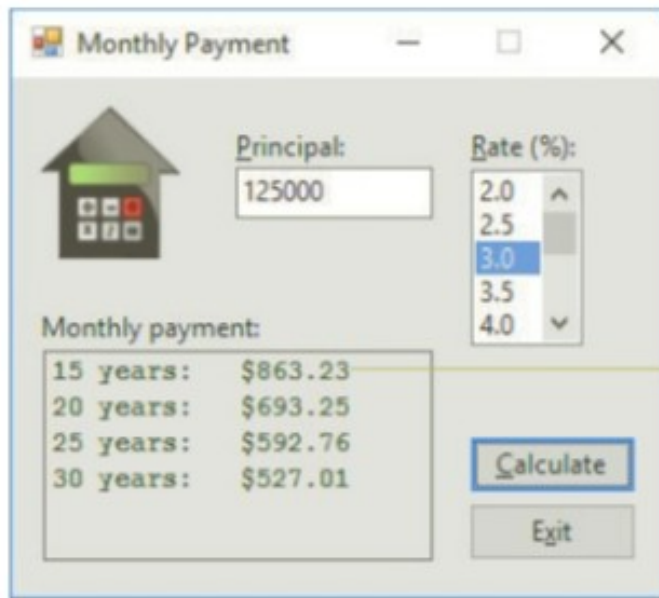
ISO 9001:2015 Certified by the Kenya Bureau of Standards

Q2. The Figure below shows the interface for the Seminars application, which uses check boxes to offer the user three different seminar options. Each seminar occurs on a different day, so the user can select one, two, or all three check boxes; or, he or she can leave all three check boxes unselected. When the user clicks the Calculate button, the button's Click event procedure will calculate and display the total amount due, which is based on which (if any) check boxes are selected. Use relevant names for all your controls.
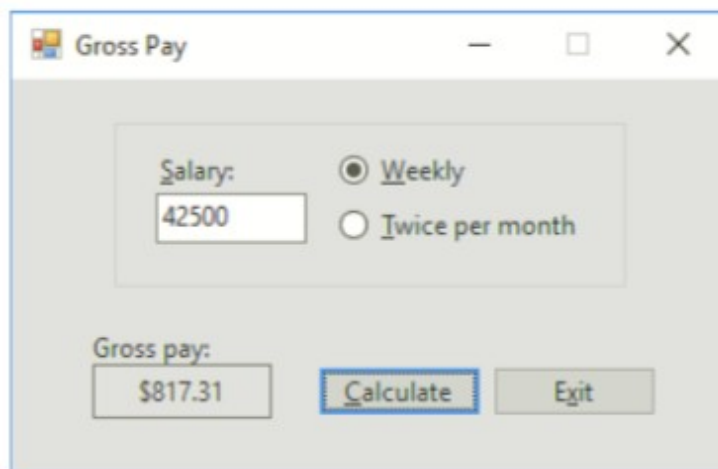
(20 Marks)

Q3. The Figure below shows the interface for the Monthly payment application, which uses a listbox to hold rate values for a principal loan's repayment plan for a period of 15, 20, 25 and 30 years repayment plan. Upon feeding the principal and choosing the rate values from a listbox, the programme should compute the monthly repayments for the **four** repayment plans (15, 20, 25 and 30 years). Use relevant names for all your controls.

(20 Marks)

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Q4. The Figure below shows the interface for the Gross Pay application, which uses two functions, called via radio button selections to calculate a person's salary if to be paid weekly (Salary/52) as a wage or every two weeks (Salary /26). Upon feeding the salary and choosing the payment plan, the calculate button should display the gross pay in the Gross pay label. Use relevant names for all your controls, variables and constants.

(20 Marks)

Q5. The Figure below shows the interface for the Concert Tickets application, which uses two functions, called via radio button selections to select the type of ticket. Upon specifying the number of tickets and choosing the ticket type, the calculate button should display the subtotal, discount and total due. Standard ticket costs $ 62.50 while VIP ticket cost $300. Use relevant names for all your controls, variables and constants.

END

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