Zarka Private University
Faculty of Science - Department of Computer Science
First Examination – Second Semester 2003 - 2004
Special Languages 1 (VB.NET) 0306215

Date: Monday, March 29 2003   **Time: 04:00 PM**
Instructor: Salah F. Saleh   **Duration: 1 Hour**

Q1) *[9 Marks]*

Write a VB.NET class library application that contains the following classes:

- **Student**

  This class has the properties: *Name, Number, and Address*. Also, it contains a constructor to initialize the variables of the object.

- **UnderGraduateStudent**

  This class has the properties: *No_of_Hours, AccumulationAverage,* and *Stage,* and a constructor for initialization. The class has to contain the following events:
  1. *Warning* event: This event happens upon changing the AccumulationAverage if the it is less than 60 with a parameter represents the type of the warning according to the following:

  $$WarningType = \begin{cases} 3 & if \quad AccumulationAverage < 50 \\ 2 & if \quad AccumulationAverage < 55 \\ 1 & if \quad AccumulationAverage < 60 \end{cases}$$
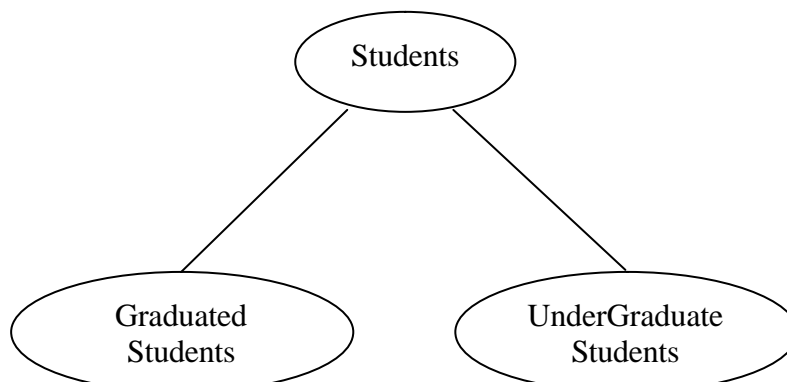
  2. *Complete* event: This event happens when the number of credit hours of the student become greater than or equal 132.

- **GraduatedStudent**

  This class has the properties: *GraduationYear, GraduationAverage, and HasJob*; and a constructor for initialization. HasJob variable is either 1 (the student has a job) or 0 (jobless). The class has to contain two events:
  1. *GotJob* event: This event happens when the student get a job.
  2. *LostJob* event: This event happens when the student loss his job.

The inheritance hierarchy is as follows:

Q2) *[6 Marks]*

Write Visual Basic.NET application that uses the classes in the DLL file of the Q1 and has the following interface:

The program has to declare an array that may contain under graduate students or post graduate students. And the buttons act as follows:

- *Add Student*

  It adds an under graduate student object or a graduated student object into the array with the values on the left.

- *Get*

  It retrieves the information of the under graduate student or graduated student whose number in the student number text box.

- *Change*

  It resaves the information of an under graduate student or graduated student.

If any event happened, display a message box to tell what is happened.

Good Luck