Deliverable Objectives

By accomplishing this deliverable, the student will be able to

- Develop Visual Basic code that can interface an application in Visual Studio to an external optimization package (Solver Foundation).
- Work effectively with a system-development team
- Design and build a software package according to User-defined functionality

Deliverable Requirements – for the project that you have chosen

1. Create a class called Optimization in your project. Use this class to invoke Solver to find an optimal solution to the decision model.
   a. Define the class properties, methods and events.
   b. Write code to define all decision variables.
   c. Write code to construct all constraints.
   d. Write code to construct the objective functions.
   e. Write code to execute the optimization.
   f. Write code to store the optimal values of all variables, the optimal value of the objective function and the slack/surplus of each constraint.
   g. Write code to trap the error of a failure of Solver to find a solution.
   (25 points)

2. Include a form that displays the optimal solution. The form should display, in clearly labeled textboxes or tables
   a. The optimal values of the decision variables
   b. The optimal value of the objective function.
   c. The slack or surplus of each constraint at the optimal solution.
   (10 points)

3. Include a form, on which you provide help instructions and information about the application.
   a. Explain what each menu item and each button on the strip tool does.
   b. Provide the mathematical model at the core of your application on this form.
   (10 points)

4. As always, include detailed comments in your code. There should be no constants or literals in the code.
   (5 points)

Submission Instructions
1. Upload your project .zip file to your Team's file box. You can gain access to this file box by first visiting your Team's Homepage.