BASIC Programming 2000 Level 4

Problem 1: Coffee or Tea (30 points)

1. Create a project with a single form and a command button. When the command button is clicked, invoke a common dialog box to change the background color of the form.
2. Modify it to create an InputBox function that will ask the user if they would prefer coffee or tea? Set a default value of "Coffee", and position the InputBox in the upper left hand corner of the screen.

Problem 2: To Your Health

Create a program that analyzes the health of an individual.

Input:

Ask the user for their vital statistics:

- Height
- Weight

Processing:

- Assume that the average person lives to 75 (life expectancy is 75 years).
- Determine a way to identify how overweight the person is.
- For every 5 pounds overweight, subtract a year from their life expectancy.

Output:

- Display your results including the life expectancy of the individual.
- Allow the individual to continue to enter information.

Problem 3: To Your Very Good Health (30 points)

Enhance your health analysis program.

Input:

Ask the user for more vital statistics

- Height
- Weight
- Age

Ask about issues related to health (you decide what to ask)

- Ex: do you smoke?

Processing:

- Continue to assume that the average person lives to 75
- Analyze the information collected and subtract years from 75 whenever you feel the person's health is compromised.

Output:

Display your results including:

- A list of those things that need improvement
- The calculated life expectancy of the individual
- Create a program that analyzes the health of an individual

Problem 4: Stop The Traffic (30 points)

- We are going to create a TrafficLight class. Start by using the Class Builder to create class called clsTrafficLight.

- We want our class to draw a traffic light on the form and then turn different lights on in response to the user clicking one of a set of command buttons. Give the TrafficLight class the following properties: Height, Width, X and Y, which are all integers, and RedLight, YellowLight, and GreenLight, which are booleans. Also add the following methods: DrawLight, ClearLight, TrafficGo, TrafficStop, TrafficCaution. Each of these routines should take a single argument the object that we are going to draw on. Call this Canvas. Finally, add one more method called Light On, and give it two arguments Canvas and then an integer argument called Interval.

- Add code to initialize the x, y, Height and Width properties. Then write the methods: DrawLight and ClearLight should be fairly self-explanatory they should draw a traffic light (3 squares in a row will be fine) and clear it from the form. TrafficGo, TrafficStop, and TrafficCaution turn the green, red and yellow lights on respectively while turning the others off.

- Create a form with several buttons. Include buttons which will, when clicked, create and destroy the traffic light, as well as buttons which will show the light to permit traffic to go, stop, and proceed with caution.