CIS 605 – Fall 2024
Assignment Set 2
Due: Sunday, September 15 @ 11:59 PM

Develop the projects described below using good visual design and program coding practices that includes

- Professional Appearance (Layout, placement, spelling, formatting)
- Meaningful title on title bar of form(s)
- Identifiers (names) for objects, variables, and constants are meaningful and follow a consistent naming convention
- General remarks at the start of every class in your program including Class Name, Class Description, Developer Name, Date Created, Date Last Modified
- Descriptive remarks for every method
- Proper indentation & blank line after each full comment line
- All variables and constants are local whenever possible (scope)
- Modular programming – i.e., breaking down a "large" programming task into multiple, independent modules, with each module performing one part of the required functionality.

Program 3 (Note: A business logic class is not required for this program)

Develop a project to display an advertising/promotion screen for an organization (real or made-up). Include the organization's name, a tagline/slogan, and a graphic image for a logo.

Allow the user to change the color of the tagline/slogan using radio buttons. Additionally, the user may choose to show or hide the organization name, the tagline/slogan, the logo, and the developer's name. Use check boxes for the show/hide options so the user can select each option independently.

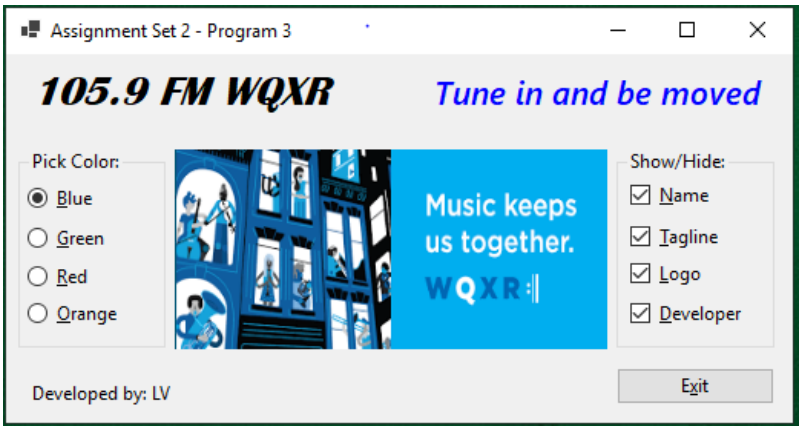
Include keyboard access keys for the radio buttons, check boxes and button. Make the Exit button the cancel button. Create a ToolTip for the logo ("Our logo").

When the project starts execution, display the tagline/slogan text in the color corresponding to the radio button that is selected by default. When the user selects a new color, change the color of the tagline/slogan to match.

All four check boxes must be selected by default, so the organization name, tagline/slogan, logo and developer's name are visible when the form is initially displayed. When the user selects or deselects a check box, show or hide the corresponding item.

Display the form in the center of the screen.

Sample Form



For programs 4 and 5

- Use NumericUpDown controls for numeric input
- Declare and use constants when appropriate
- Format output data

Program 4

Create a static class (Loan) that has

- 1 static method
    - CalculateMonthlyPayment
        - **Parameters:** loan amount, duration of loan (months), annual interest rate (percentage)
        - **Calculation:**
            - monthly interest rate = annual interest rate / (100 * 12)
            - monthly payment = loan amount * (monthly interest rate * (1 + monthly interest rate) ^ duration of loan) / ((1 + monthly interest rate) ^ duration of loan – 1)
        - **Return:** monthly payment

Create a Form class that has:

- appropriate controls to input the following:
    - Loan amount
    - Duration of loan
    - Annual interest rate
- a Monthly Payment button to call the CalculateMonthlyPayment method and display the monthly payment in a label.
- a Clear/Reset button to clear or reset the values displayed on the form.
- an Exit button to exit the application.
- A label at the bottom of the form that displays your full name as the developer.

Program 5

Create a class (PaintJob) that has

- 1 instance method
    - CalculateEstimatedCost
        - **Parameters:** square footage to be painted, cost of a gallon of paint
        - **Calculation:** estimated cost for paint job = paint cost + labor cost
            - paint cost = (square footage to be painted / 390) * cost of a gallon of paint
            - labor cost = square footage to be painted * 3.05
        - **Return:** estimated cost for paint job

    Note: Assume a gallon of paint can cover 390 square feet, and it costs $3.05 per square foot for labor.

Create a Form class that has:

- appropriate controls to input the following:
    - square footage to be painted
    - cost of a gallon of paint
- an Estimated Cost button to instantiate a PaintJob object, call the appropriate method and display the estimated cost in a message box.
- a Clear/Reset button to clear or reset the values displayed on the form.
- an Exit button to exit the application.
- A label at the bottom of the form that displays your full name as the developer.