

## Flower Box Generator

### OOP Goal:

In the project the student will be required to design and implement an object oriented model that represents a simple c++ source code file.

### Topic Goal:

Recreate the scaffolding similar to the comments that Dr. Ragsdale requires in data structures. This project requires more details than Dr. Ragsdale actually requires. The extra requirements are included to enrich the object orient design process and for humorous exaggeration.

Disclaimer – I, Dana Steil, respect Dr. Ragsdale and his encouragement of code documentation. Dr. Ragsdale is a hero of mind and no disrespect is intended by this assignment. Software developers should follow the guidelines and expectations of their teachers and employers even if they have other preferred styles.

### Toolset Goals:

- Object Oriented Design experience using a model similar to UML class diagrams.
- Practice with composition and aggregation.
- Practice with generic lists.
- Practice with another programming language.
- Practice with regular expressions.

### Example Code to Help with Regex:

<https://www.harding.edu/dsteil/345/Assignments/CPPParsingFlowerBoxHelp.zip>

### Phases:

1. (7 points) Each team/individual must submit an Object Oriented Design using a model similar to UML class diagrams.
  - a. [UML basics: The Class Diagram](#)
  - b. [Online UML class diagram creator](#)
  - c. The diagram should include all of the classes you plan to have in your project, the data members of these classes, and the methods of these classes.
2. (23 points) Each team/individual must submit a C# project that completes the requirements listed below. An updated version of the class diagram should be submitted with the project.

### Requirements:

1. You must use C#
2. Add a top-of-file flower box that contains that following items that should be entered by the user:
  - a. Programmer name
  - b. Due date
  - c. Assignment name
  - d. Description of the assignment

3. Add function flower boxes before every function. These should include:
  - a. The name of the function with a description that is derived from the function name
  - b. A description of the function. Note: the description should be the name of the function separated at each capital letter. If the function is void, add an 's' to the end of the first word which should be a verb.
  - c. What type the function is going to return
  - d. A list of parameters with a description and their types
4. Add class flower boxes before every class. These should include:
  - a. The name of the class
  - b. A list of the attributes/data members
  - c. A list of methods (optional)
5. User interface:
  - a. You have creative freedom on this portion of the project. There must be a means of entering/importing c++ code and displaying/exporting the same code with the required flower boxes.
  - b. You may read directly from files and write to files or you may choose to have the user copy and paste code into a text box.

#### Examples:

```

/*****
* Program Name:   bst.cpp
* Description:    This is the implementation file that defines what the
* prototypes inside of bst.h will accomplish. Through these
* definitions, criminal.cpp will be able to use these for its object called
* Bst.
* Author:        Brandon Ragsdale
* Due Date:      12/12/09 @ 11:55 P.M.
*****/

```

```

/*****
* Function Name:  InOrderPrint
* Description:    This function prints Node In Order. Optional description
* added by the user.
* Return Type:   void
* Parameters:
*   treePointer - the currentNode of type TreePtr
*   outputStream - the output Stream of type ostream
*****/

```

```

void printNodesInOrder(TreePtr currentNode, ostream & outputStream)
{
    if (treePointer != NULL)
    {
        InOrderPrint(treePointer ->left, fout);
        outputStream << treePointer ->info.name << endl;
        InOrderPrint(treePointer ->right, fout);
    }
}

```

Teams:

Samuel Stevens and Bryan Cuneo

Shannon Burke and Marshall Harris

Nathan Daughety

Scott Record

Nathan Roberts Shane O'Keefe

Nick Phillips Travelle McManus

Ben Cline & Forrest Hickey

Brent Pendergraft Travis Limbaugh