Name:_____Danielle Johnson_____   Assignment: #2

Design Steps of the Program Development Life Cycle
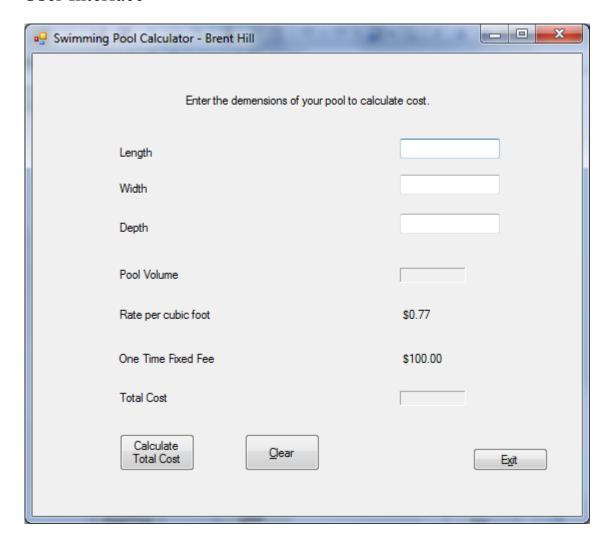
Requirements Document

Date Submitted:	3/27/14
Application Title:	Falling Distance
Purpose:	This application will allow the user to enter the amount of time that an object has fallen and then dispays the distance that the object fell.
Program Procedures:	From a window on the screen the user should enter amount of time an object has fallen. The program will display distance that the object fell in single, double, and triple time.
Algorithms, Processing, and Conditions:	1. The user must be able to enter the amount of time an object has fallen. 2. After the user enters the amount of falling time, the user clicks the Calculate button. 3. The program must calculate the distance an object has fallen in single, double, and triple time. 4. The program must display the three distance results. 5. To determine the distance, distance equals $(.5)(9.8)(t^2)$.
Notes and Restrictions:	1. The user must be able to clear the information and reenter the data. 2. To close the program, the user should be able to click the exit button.
Comments:	1. The designer must determine the design of the user interface, and the words and graphics used in the user interface.

Use Case Definition

1. The user opens the application
2. The user enters the amount of falling time of an object.
3. The user clicks the Calculate button.
4. The program displays the three distances calculated.
5. The user can click the Clear button or press ALT+C and then repeat steps 2 through 4.
6. The user terminates the program by clicking the Exit button or by pressing ALT+X.

User Interface

List of the controls and relevant property values.

Control Type	Control Name	Description	Property	Value
Form	frmFallingDistance	Only form in application.	Text	"frmFallingDistance_DanielleJohnson"
List Box	lstResults	Displays the results of the falling distance calculations.	Text	"lstResults"

Text Box	txtTime	Holds the number value for the amount of falling time.	Text	""
Button	btnCalculate	When clicked, displays the three falling distances.	Text	"&Calculate"

| Button | btnReset | When clicked, all information that was entered will be cleared. | Text | "&Reset" |
| Button | btnExit | When clicked, the program will terminate. | Text | "E&xit" |

Event Planning Document

Program Name: Falling Distance	Developer: Danielle Johnson	Object: frmFallingDistance	Date: 3/27/14
Object	**Event Trigger**	**Event Processing**	
btnCalculate	Click ALT+C	Calculate falling distance as $(.5)(9.8)(t^2)$. Repeat for double and triple times. Display falling distances.	
btnReset	Click ALT+R	Clear time text box. Clear falling distance results. Set focus on the time text box.	
btnExit	Click ALT+X	Close the window and terminate the program.	
frmPoolCalculator	Load	Set focus on time text box. Display falling distance results.	

Event Flowcharts:

btnCalculate

Start
↓
Clear lstResults
↓
Is strTime Blank? —Yes→ Show Error → Focus on txtTime
↓ NO
Is strTime Numeric? —No→ Show Error → Focus txtTime → Select All
↓ Yes
Calculate distances

BtnReset

Start
↓
Clear lstResults
↓
Clear txtTime
↓
Focus txtTime

BtnClose

Start
↓
Close form