Chapter 3

How to code and test a Windows Forms application

Ryan's Late Fee Calculator

Code and test the forms for Ryan's Late Fee Calculator

Build 1 project, with 4 forms

The Main menu form (frmMain)

- A late fee calculator form for new releases (frmNew)
- A late fee calculator form for library movies (frmLibrary)
- A late fee calculator form for kids movies (frmKids)

Main Form (frmMain)

Wire up each button
In the code for the form add to the *btn_Click* stubs

Exit Button

```
this.Close();
```

Other 3 follow this pattern

```
frmNew NewReleases = new frmNew(); // Create a new instance

private void btnNew_Click(object sender, EventArgs e)
{
   NewReleases.ShowDialog();  // Open up frmNew
}
```

For each type of late fee

Initialize the form

In the code for the form add to the main class

```
public frmName()
    {
        InitializeComponent();

        // populate Today's date and show it in the textbox txtCurrent
        txtCurrent.text = datetime.now.tostring(@"MM-dd-yyyy");
    }
```

For each type of late fee

Wire up each button

In the code for the form add to the *btn_Click* stubs

Return Button click

```
this.Hide();  // Hide this form to reveal frmMain
```

For each type of late fee

Wire up each button

In the code for the form add to the *btn_Click* stubs

Calculate Button click

```
// Generate the current date
DateTime dCurrent = DateTime.Now;

// Generate the due date based on user entry in textbox txtDue
DateTime dDue = DateTime.Parse(txtDue.Text);

// Calculate the number of days late
TimeSpan days = (dCurrent.Date - dDue.Date);
double number of days = days.TotalDays;

// Display the number of days late in the textbox txtNum
txtNum.Text = number of days.ToString();
```

For each type of late fee

Wire up each button
In the code for the form add to the *btn_Click* stubs

Add to the Calculate Button click

```
// Calculate the late fee, the '2' will change for each of the types of movie
double late fee = 2 * number of days;

// Display the late fee as currency in the textbox txtFee
txtFee.Text = late fee.ToString("c");
```

Which for opens 1st

Program.cs

```
Application.Run(new Form1());
```

Now test

Try good, bad, and odd data

- some things will break it, that's okay, we haven't accounted for everything yet

Watch the value of locals

Correct any errors

Remove event handlers that aren't used.

- Remove their wiring too

Update the comments so they're not as generic as mine

Turn in the zipped folder to the dropbox before next class

Rubric

	0 points	3 points	5 points	8 points	10 points
Forms	Nothing submitted	Incomplete forms	Complete, garish forms	Complete, usable forms	Clean, intuitive design
Function	Nothing submitted	Date issues	Working nav buttons or calculate buttons	Working nav and calculate buttons	Working nav and calculate buttons, proper reveal and remove of forms
Clean code	Nothing submitted	Non-functional code	Poorly named elements, functional methods	Well-named elements, some commenting	No extra stubs, clean, well organized functions, clear commenting