

# ITP 365: Introduction to C++ Programming

Lab Practical 2

Due: BoNC (Beginning of Next Class)

## Goal

In this lab, you'll work with C++ strings and the Stanford library to display Shakespeare's sonnets.

## Setup

- Download the starter project given with the lab – the starter project has all the files you'll need. Edit **main.cpp** to complete this lab.
- Be sure to change the file header to contain your information (not the generic data given)

## Requirements

Your program will process the text file from Project Gutenberg containing Shakespeare's collected works. You will process only the sonnets and collect them so the user can view any number of individual sonnets.

**main.cpp** file:

- Prompt the user for the file containing the input file. If the file does not exist, let the know and quit the program.
- Once open, your program should look for a line containing "THE SONNETS". This starts the section containing the sonnets. It ends with a line containing "THE END".
- Store each sonnet in a **single string**. Store all the sonnets into a vector of strings. The 1<sup>st</sup> sonnet should be in index 0.
- Once all the sonnets are stored, prompt the user for a number and display that sonnet. Quit prompting when a negative number is entered.
- Your input processing must be robust, text entered instead of a number should not crash your program. See the sample input for an example of error handling.

## Sample Output

Your program should resemble the following output (user input is in **RED**):

```
Where are Shakespeare's sonnets saved? all.txt
Just loaded 154 sonnets!
Which would you like to read? The first
Please enter a number between 1 and 154
Which would you like to read? 160
Please enter a number between 1 and 154
Which would you like to read? 5
Sonnet #5
Those hours that with gentle work did frame
The lovely gaze where every eye doth dwell
Will play the tyrants to the very same,
And that unfair which fairly doth excel:
For never-resting time leads summer on
To hideous winter and confounds him there,
```

Sap checked with frost and lusty leaves quite gone,  
Beauty o'er-snowed and bareness every where:  
Then were not summer's distillation left  
A liquid prisoner pent in walls of glass,  
Beauty's effect with beauty were bereft,  
Nor it nor no remembrance what it was.  
But flowers distilled though they with winter meet,  
Leese but their show, their substance still lives sweet.

Which would you like to read? **-1**

## Deliverables

1. Create a ZIP compressed folder containing all the files you've edited named **Lab2**.

This can be done by:

- a. WINDOWS:
  - i. Select all your files
  - ii. Right click
  - iii. Send to ->
  - iv. Compressed (zipped) folder
  - v. Rename this zipped folder to Lab2
  - vi. Submit this zipped folder through Blackboard
- b. OSX:
  - i. Select all your files
  - ii. Right click
  - iii. Compress items
  - iv. Rename this Archive.zip to Lab2
  - v. Submit this zipped folder through Blackboard