

# CS150 Intro to CS I

Fall 2015

# Assignment 2 Notes

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- Variable initialization:
  - consts before all others, all caps, separate words by \_
  - ALL at top of main, before **any** executable statements
  - For readability, initialize variables on separate lines
  - Use useful variable names!
  - No magic constants!
- Test cases:
  - Handle all combinations of user input?
  - End when it is supposed to (eg. neg. number entered)?
  - Test border cases!

# Input file review

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Suppose that a text file (cities.txt) contains the names of cities and their average temperature for October. The last line contains xxxxxx to indicate the end of the file: (from [www.infoplease.com/ipa/A0762183.html](http://www.infoplease.com/ipa/A0762183.html))

```
Denver 51.0  
Fargo 49.3  
Las_Vegas 68.7  
Portland 54.3  
Tucson 70.5  
xxxxxxx
```

Write a program that will read in the information, then display to the user the name of the city with the highest average temperature in October.

# Chapter 5

## do-while

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- Reading: 5.5 (pp. 242-247)
- Good Problems to Work: p. 246 5.5

# do-while loop

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- do-while is
  1. another repetition structure
  2. is a post-test loop that executes one or more times
  3. is used many times to validate data input by the user
- general form

```
do
{
    // statements
} while (logical expression);
```

- What does the flowchart for a do-while look like?

# Input Validation

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- Ask the user to enter a year. Valid years are greater than 0.

```
do
{
    cout << "Enter a year:" << endl;
    cin >> year;
} while (year <= 0);
```

# Practice

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- Write C++ statements that will read in integers from the user until the user inputs an integer greater than 10.

# Practice

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- Ask the user for an even integer greater than 100. Keep asking until valid input is given.



# Practice

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- Ask the user for a capital letter. Keep asking until you get valid input.

# Practice

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- Write a program segment that displays the following menu:

**S)ave**

**E)dit**

**Q)uit**

**Select:**

- If the user does not enter a valid selection (`'S'`, `'s'`, `'E'`, `'e'`, `'Q'`, `'q'`) then display the menu again. Continue doing so until the user enters a valid menu choice.