

CS150 Intro to CS I

Fall 2015

Assignment 2 Notes

- 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

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)

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

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

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

do-while loop

- 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

- 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

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

Practice

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

Practice

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

Practice

- 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.