

# CS102 – Review for exam over Chapter 3

## Chapter 3

### if statements

Be able to code if, if with else, given conditions.

You will have to code several ifs

Always use braces in if statements

Know the relational operators

< (less than), <= (less than or equal), > (greater than),

>= (greater than or equal), == (equal), != (not equal)

Know how to compare floating point numbers

Know about comparing strings

“HI” and “Hi” are not equal

if (string1 < string2) means to test if string1 comes before string2 in the

### dictionary

The last choice in a multi-way if is an else, not an else if

Know what nested ifs are

### Flow Charts

Know that the lines always flow down or to the right

Know the various symbols

A rectangle indicates a task

A non-rectangular parallelogram indicates input or output

A diamond indicates a decision

Also, there are usually start and end symbols

The boolean data type (A bool variable can store true or false)

Boolean variables frequently get their values as a result of a comparison

### More advanced if ideas

We can check if a data value is in a range

Know about and (&&), or (||), and not (!)

Know what short-circuit if logic is

### Input Validation

Input data should always be validated

A common problem is that when people enter data, they make mistakes

### Input Failure

if (cin.fail ())

### The switch statement

Know how to code it