For Construct in C++

Instructor: Andy Abreu
Repeating Tasks

• C++ provides another way for us to repeat our tasks
• This is called a for loop
• For loop has the same three parts as the while loop:
  – Initialize Counter
  – Comparison on Counter
  – Update Counter
Two type of loops, why?

- Why did C++ provide two types of looping constructs?
- The for loop is designed with conveniences of the programmer in mind.
- When designing programs you think ahead of times how many times the loop needs to be preformed.
- C++ for loops are setup that exact way.
For Loop Model

• Model:

```java
for( initialize ; comparison ; update )
{
    //do something here many times
}
```

• Notice that the three parts of the while loop is pack together in one place in the for loop.
For Loop Model Example

• Example:

```java
for( int c = 1 ; c <= 10 ; ++c )
{
    //do something here 10 times
}
```
While Loop vs. For Loop

• There are no definitive rules stating when to use which loop, here are my recommendations:

  • Use while loop if...
    – Do not know number of times to loop in advance
    – Loop condition is base on user input

  • Use for loop if...
    – Number of times to loop is known in advance
    – If nesting loops is needed for logical flow