

**For Each Loops**

# For Each

## The For-Each Loop

- Java has a loop construct that simplifies certain array loops.
- It is known as the enhanced for loop, or the for-each loop. You can use it whenever you want to examine each value in an array.
- Not used when you want access to the iterator or setting an element.

# For Each Example

```
for (int i = 0; i < temps.length; i++) {  
    if (temps[i] > average) {  
        above++;  
    }  
}
```

We can rewrite this as a for-each loop:

```
for (int n : temps) {  
    if (n > average) {  
        above++;  
    }  
}
```

# For Each

- You read it like “For each int n in temps”
- Basic syntax is:

```
for (<type> <name> : <array>) {  
    <statement>;  
    <statement>;  
    ...  
    <statement>;  
}
```

# For Each – Doesn't Replace

- Because the loop is changing the array, you can't replace it with a for-each loop:

```
for (int n : list) {  
    n *= 2; // changes only n, not the array  
}
```

This is not multiplying 2 to each element

# For Each – No Iterator

```
for (int i = 0; i < data.length; i++) {  
    System.out.println(i + "\t" + data[i]);  
}
```

```
for (int n : data) {  
    System.out.println(i + "\t" + n); // not quite legal  
}
```

**'n' is not an iterator. It represents data[n].**