

## Loops Notes

loops are found in Session 10.2 Carey 6e

3 types of loops:

- for
- while
- do-while

Forms of the various loops

With one statement	With multiple statements
<pre><b>for</b> (condition) statement;</pre> <p>(see <b>callout diagram</b> below)</p>	<pre><b>for</b> (condition) {     statement1;     statement2;     statement2; }</pre> <p>(see <b>callout diagram</b> below)</p>
<pre><b>while</b> (condition) statement;</pre>	<pre><b>while</b> (condition) {     statement1;     statement2;     statement3; }</pre>
<pre><b>do</b> statement; <b>while</b> (condition)</pre>	<pre><b>do</b> {     statement1;     statement2;     statement3; } <b>while</b> (condition)</pre>

**callout diagram** with explanation of the condition statement of the **for** loop:

form of the **condition** of the **for** loop:

( i = 1; i <= 4; ++i )

where :

- i is the control variable (“i” is used commonly);
- i = 1 is the initial value;
- i <= 4 is the test condition for whether the loop will be repeated. If “i <= 4” is true for the current value of i then the loop statements are executed. Otherwise, they are not.
- ++i (or i++) after the loop statements are executed, i is incremented by 1