**Chapter 6**

**Knowledge Goals**

* To learn what a loop is and why loops are used.
* To understand standard looping techniques, such as accumulation, counting, finding a maximum or minimum value, and calculating an average.
* To learn about event-controlled loops using while.
* To learn about event-controlled loops using do/while.
* To learn about count-controlled loops using for.
* To learn how to construct loop conditions.
* To learn about nested loops.
* To learn how to test that a loop produces the correct results.

**Skill Goals**

*To be able to:*

* Write simple loops using for, while, and do/while.
* Write loops using programming techniques to solve problems such as calculating a sum, counting items, calculating an average, and finding a maximum or minimum of a set of inputs.
* To perform type-safe input using Scanner.
* Construct loop termination conditions and translate them into loop continuation conditions using DeMorgan’s Laws.
* Write nested loops.
* Test loops for correctness.