

LOOPS

Loop

- ▶ *A loop can be used to tell a program to execute statements repeatedly*
- ▶ `int count = 0;`
 `while (count < 100) {`
 `System.out.println("Welcome to Java!");`
 `count++;`
 `}`
- ▶ *Loops are constructs that control repeated executions of a block of statements*
- ▶ Java provides three types of loop statements:
 - ▶ `while` loops, `do-while` loops, and `for` loops

while Loop

- ▶ **while** loop executes statements repeatedly while the condition is true

- ▶ **while** (loop-continuation-condition) {

// Loop body

Statement(s);

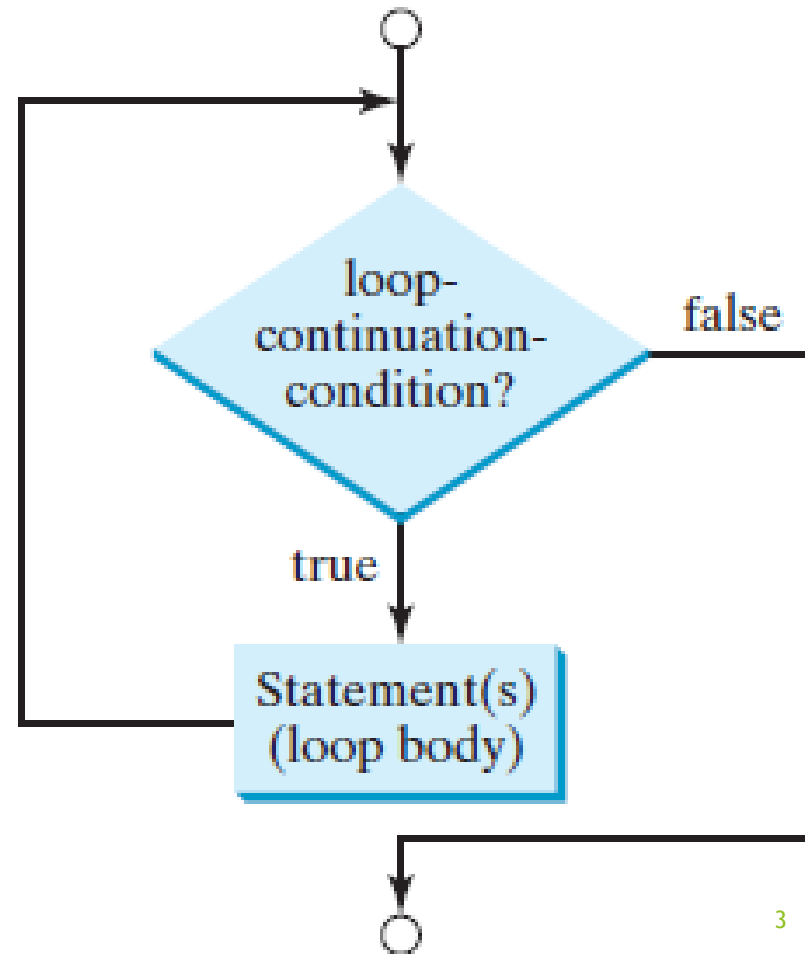
}

- ▶ **int** sum = 0, i = 1;

while (i < 10) {

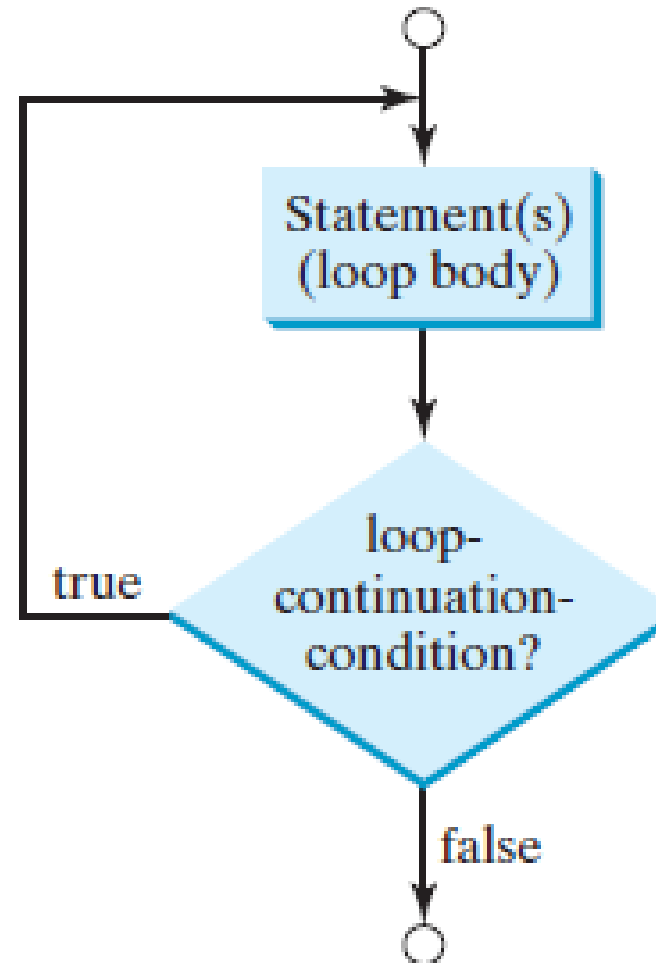
sum = sum + i;

}



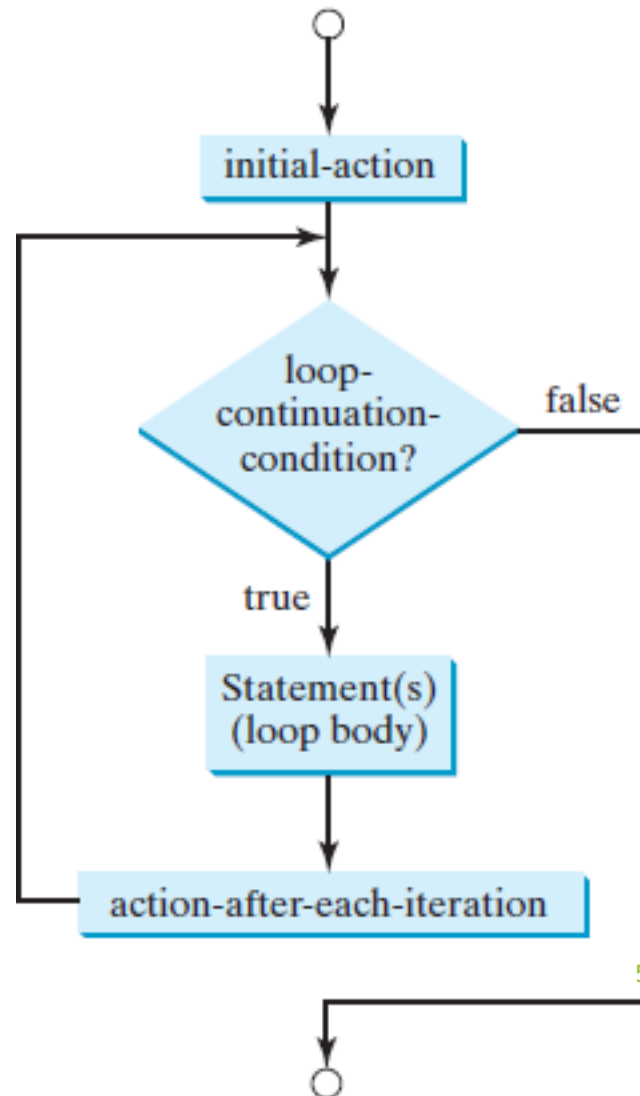
The do-while Loop

- ▶ A **do-while** loop is the same as a **while** loop except that it executes the loop body first and then checks the loop continuation condition
- ▶ **do** {
 // Loop body;
 Statement(s);
} **while** (loop-continuation-condition);



The for Loop

- ▶ A for loop has a concise syntax for writing loops
- ▶ `for (initial-action; loop-continuation-condition; action-after-each-iteration) {
 // Loop body;
 Statement(s);
}`



Nested Loops

- ▶ *A loop can be nested inside another loop*

Keywords *break* and *continue*

- ▶ *The break and continue keywords provide additional controls in a loop*
- ▶ use **break** in a loop to immediately terminate the loop
- ▶ **Continue** breaks out of an iteration