**while**

The while loop executes a statement or group of statements repeatedly as long as the controlling expression is true (1). Its syntax is

while *expression statements*

end If the expression evaluates to a matrix, all its elements must be1 for execution

to continue. T o reduce a matrix to a scalar value, use theall and any functions. For example, this while loop finds the first integer n for which n! (n factorial) is

a 100−digit number.

n = 1; while prod(1:n) < 1e100

n = n + 1; Exit a while loop at any time using the break statement.

end

**while Statements and Empty Arrays.** A while condition that reduces to an empty array represents afalse condition. That is,

while A, S1, end never executes statementS1whenAis an empty array.