Exercise – Recursion

1. **Factorial.** Given this function for calculating the factorial of a number, *n*:

   ```
   factorial(0) = 1
   factorial(n) = n * factorial(n – 1) [ for all n > 0 ]
   ```

write a recursive Java method for computing the factorial of a given integer variable, *n*.

2. **Palindrome.** Write a recursive Java method for determining whether a given string is a palindrome, a sequence of characters which reads the same backward or forward.