COS126 Recursive Methods Activity - 2.3

- Group Activity: Methods, Recursion

```
// Here is a non-recursive method which returns n! where 0! = 1, 1! = 1
// and n! = 1 * 2 * ... * n  (assuming n >= 0).
public static long factorial(int N) {
   long f = 1;
   for (int i = 1; i <= N; i++) {
      f = f*i;
   }
   return f;
}
```

Write a recursive method `factorial()` to calculate n! where
0! = 1 and n! = n * (n-1)!

```
    public static _____ factorial(_____) {

        // base case
        if (_____)

              return _____;


        // reduction step
        return _____ * factorial(_____);

    }
```

Recommended Book Exercises: 2.3.3 (trace by hand, then program it to see the correct answer), 2.3.8, 2.3.14, 2.3.22