**Compiled Factorial Example**

Factorial example:

class Factorial {

public int fact(int num){

int num\_aux;

if (num < 1)

num\_aux = 1 ;

else

num\_aux = num \* (this.fact(num-1));

return num\_aux;

}

}

Result of compilation with javac:

public int fact(int);

Code:

0: iload\_1

1: iconst\_1

2: if\_icmpge 10

5: iconst\_1

6: istore\_2

7: goto 20

10: iload\_1

11: aload\_0

12: iload\_1

13: iconst\_1

14: isub

15: invokevirtual #2; //Method fact:(I)I

18: imul

19: istore\_2

20: iload\_2

21: ireturn

Note: a non-static method has a receiver parameter (**this**), which is parameter in the slot 0. The bytecode can therefore refer to the receiver object by using **aload\_0** instruction to put it onto the stack and then use instructions to invoke methods, read fields, and write fields.