

```
class benchmark
{
    static int factorialIterative(final int x)
    {
        int answer = 1;

        for(int i = 1; i <= x; i++)
            answer *= i;

        return answer;
    }

    static int factorialRecursive(int x)
    {
        if(x == 0)
            return 1;
        else
            return x * factorialRecursive(x-1);
    }

    static public void main(String[] args)
    {
        long testStartTime;

        final int factorialValue = 7;

        // Measure the speed of the Iterative algorithm
        testStartTime = System.nanoTime();
        for(int i = 0; i < 1000000; i++)
            factorialIterative(factorialValue);
        long iterativeTime = System.nanoTime() - testStartTime;

        // Measure the speed of the Recursive algorithm
        testStartTime = System.nanoTime();
        for(int i = 0; i < 1000000; i++)
            factorialRecursive(factorialValue);
        long recursiveTime = System.nanoTime() - testStartTime;

        System.out.println();
        System.out.println("calculating the factorial of " + factorialValue);
        System.out.println("iterativeTime = " + (iterativeTime / 1000000)
            + " milliseconds");
        System.out.println("recursiveTime = " + (recursiveTime / 1000000)
            + " milliseconds");

        if(iterativeTime < recursiveTime)
            System.out.println("iterative is faster!");
        else
            System.out.println("recursive is faster!");
    }
}
```