

The nonrecursive function is

```
int Factorial (int n)
{ // Nonrecursive program to compute n!
  if (n <= 1) return 1;
  int fact = 2;
  for (int i = 3; i <= n; i++)
    fact *= i;
  return fact;
}
```

For this function, $S_{\text{Factorial}}(n) = 0$ while for the recursive version, it is $4 * \max\{n, 1\}$. The nonrecursive version uses less space than its recursive counterpart.

The relevant files are `fact.*`.