04-B2

栈与队列

调用栈：深度与空间

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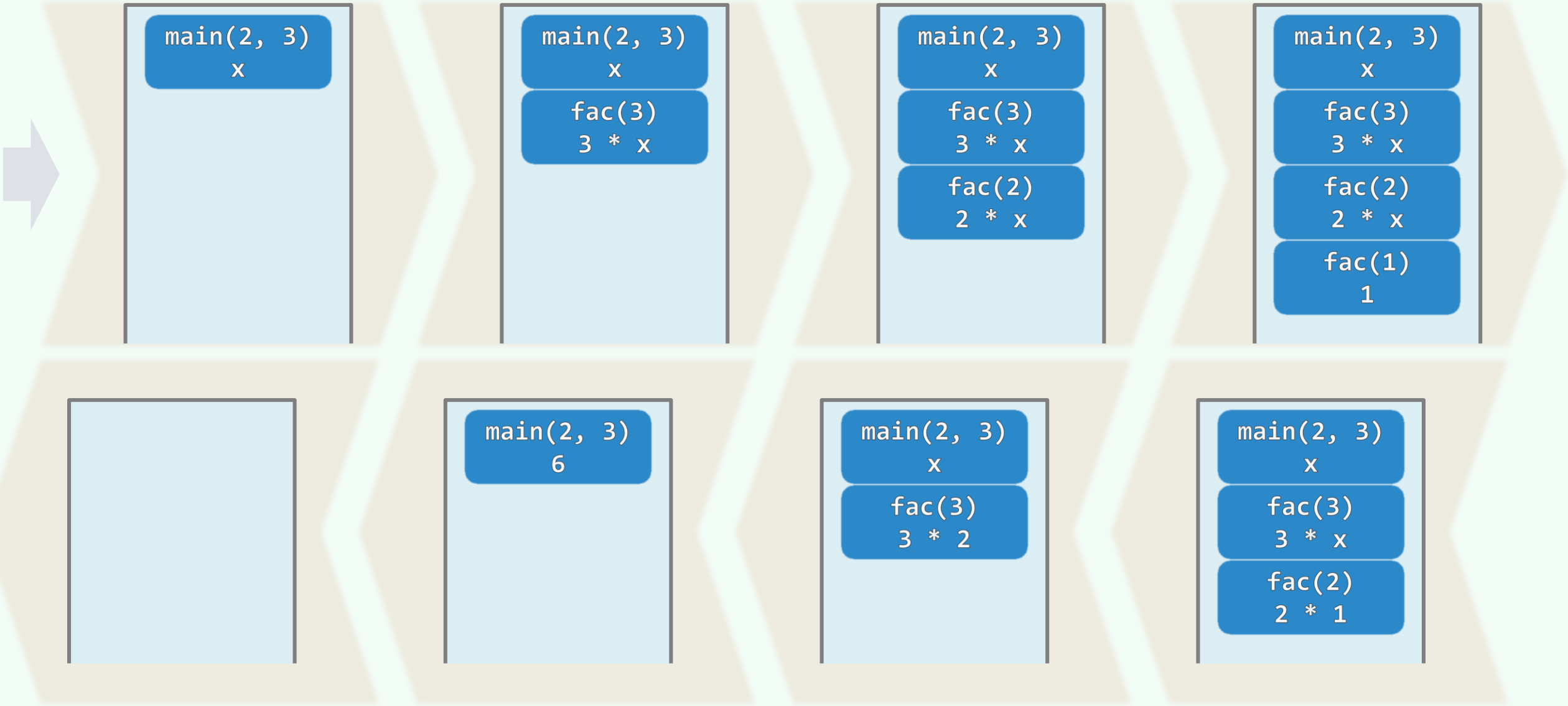
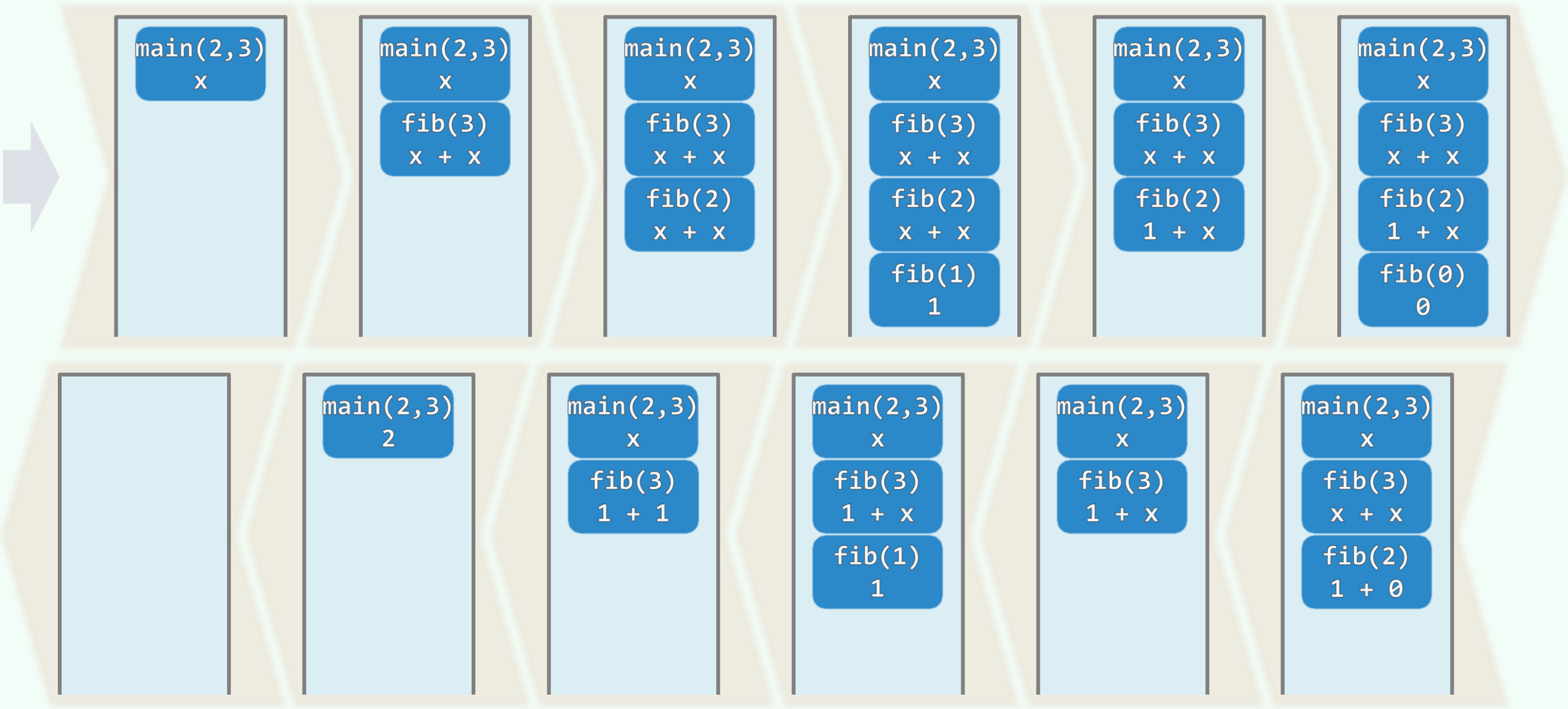
```
int fac(int n) { return (n < 2) ? 1 : n * fac(n - 1); }
```



```
int fib( int n ) { return (n < 2) ? n : fib(n - 1) + fib(n - 2); }
```



空间复杂度

```
❖ hailstone(int n) {
      if ( 1 < n )
         n % 2  ?  odd( n ) : even( n );
  }
❖ even( int n ) { hailstone( n / 2 ); }
  odd( int n ) { hailstone( 3*n + 1 ); }
❖ main( int argc, char* argv[] )
  { hailstone( atoi( argv[1] ) ); }
```

❖ 可见，递归算法所需的空间

主要取决于递归深度，而非递归实例总数