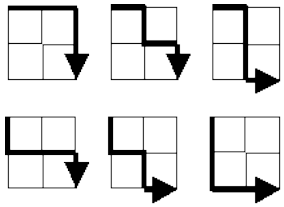
Project Euler 15: Lattice paths

Starting in the top left corner of a 2×2 grid, and only being able to move to the right and down, there are exactly 6 routes to the bottom right corner.



How many such routes are there through a 20×20 grid?

Algorithm 1 Recursive route-counting function

```
function PE_015_recursive(rows←20, columns←20)
    path_sum ← Dict{Any, BigInt}()

    function count_routes(m, n)
        if n = 0 OR m = 0
            return 1
        end

        try
            return path_sum[(m, n)]
        end
        path_sum[(m, n)] ← count_routes(m, n - 1) + count_routes(m - 1, n)
        return path_sum[(m, n)]
    end
    count_routes(rows, columns)
end
```