High-level Language Programmer’s View

main:
maxNum = 3
maxPower = 4

CalculatePowers(maxNum, maxPower)
(*)

end main

CalculatePowers(\textbf{In}: integer numLimit, integer powerLimit)
integer num, pow

for num := 1 to numLimit do
    for pow := 1 to powerLimit do
        print num “ raised to “ pow “ power is “ Power(num, pow)
    (***)
end for pow
end for num

end CalculatePowers

integer \textbf{Power}(\textbf{In}: integer n, integer e)

integer result
if e = 0 then
    result = 1
else if e = 1 then
    result = n
else
    result = Power(n, e - 1) * n
end if
return result
end Power

1) Trace the next execution of the recursive function Power by showing the run-time stack.

2) What is the most number of call frames on the stack at any one time for the \textbf{whole} program?