

# **Computer Science CSCI 261**

## **Computer Architecture and Assembly Language**

*Dr. Peter Walsh  
Department of Computer Science  
Vancouver Island University  
peter.walsh@viu.ca*

## SSBC Recursion

○ e.g.  $\Sigma 5$  Recursive Pseudocode

 int sigma5r (int n) {

if (n == 0)

return 0

else

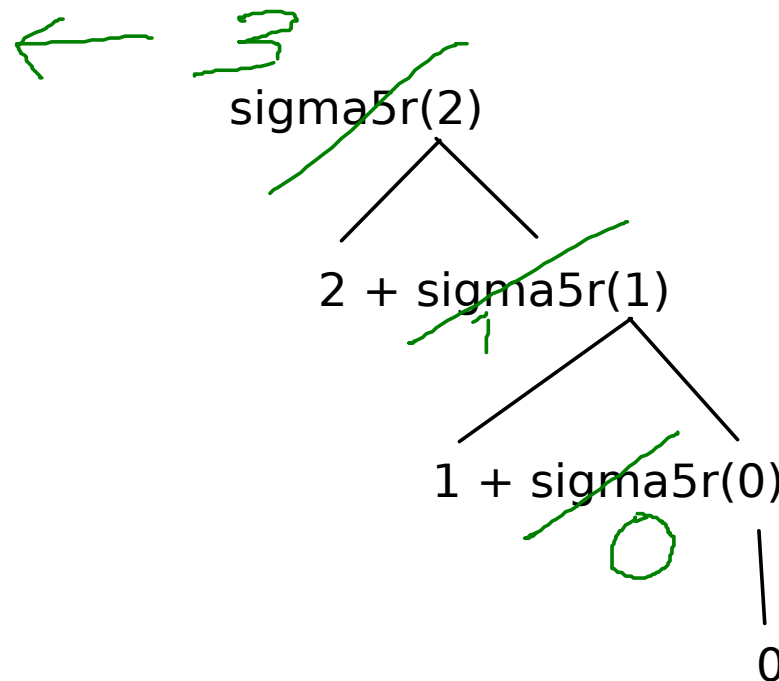
return n + sigma5r(n - 1)

}

Sub. call   
Sub. ret 

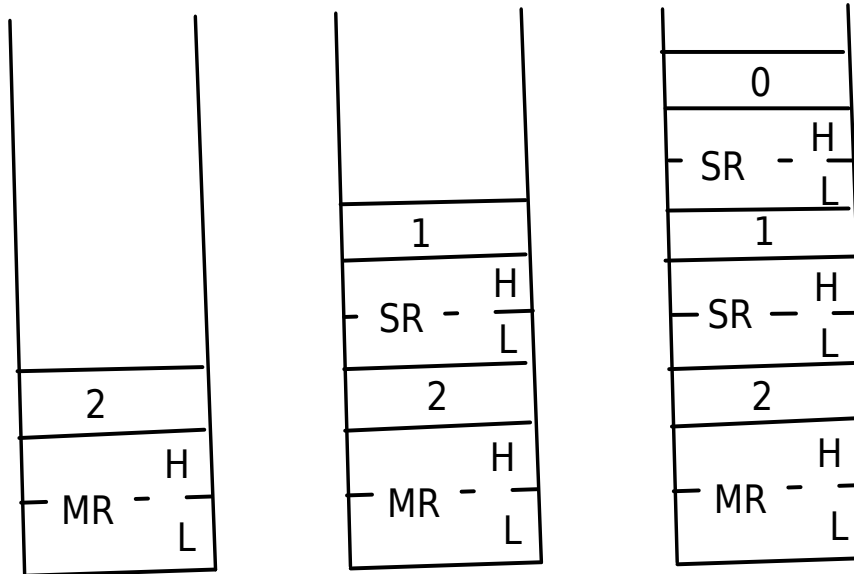
## SSBC Recursion cont.

○ e.g.  $\Sigma 5$  Recursive Trace



## SSBC Recursion cont.

- e.g.  $\Sigma 5$  Recursive Trace
  - stack after each recursive call



## SSBC Recursion cont.

- e.g.  $\Sigma 5$  Recursive Stack (Inward)
  - stack after each return

