

BLG351E Experiment 4 Part 2 “Stack & Subroutines” REPORT	CRN	12635
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Q2) (30 pts.) What is the maximum depth of the stack for recursive function Dot(A,B,i,N) given in Part 3? How?(Note that the function requires 4 variables & all variables are passed through stack. Hint: Result should be in terms of N.)		
<p>Program will work for $N + 1$ times, since vectors have N elements, multiplication of A_i and B_i will occur N times and as a base case for recursive function when $i == N$ function will return so recursive call will end.</p> <p>Since all function calls allocate 5 spaces (4 for variables, 1 for return adress) in total $5 \times (N+1)$ words long memory space will be allocated to recursive function calls.</p>		
Q3) (30 pts.) Why did you increase the stack pointer twice to reach each parameter? (e.g. $2(SP)$, $4(SP)$)		
<p>Words occupy 2 bytes long memory space, so in order to reach next word held in the stack, we should increase the stack pointer by two. We are increasing the stack pointer because stack grows into lower memory addresses so previously held words are held in higher memory addresses.</p>		