

hw9

Q1. Using the format of Figure 10.6, please draw the stack usage procedure during the computation of $(51-49)*(172+205)-(17*2)$. The stack pointer is x4000 initially. Hint: you may refer the whole process sequence in Page 396 of textbook.

x3FFB	-	-			
x3FFC	-	-			
x3FFD	-	-			
x3FFE	-	-			
x3FFF	-	51			
SP	x4000	x3FFF			

Q2. There is a 4-dimensional array $A[M, N, P, Q]$, in which $M = 3, N = 5, P = 7, Q = 9$. Each element is a 16-bit integer and stored sequentially in LC-3's memory. The first element $A[0, 0, 0, 0]$ is stored at address x4000. The access way of this 4D array can be describe in C like:

```
int i,j,k,l;
for(i=0; i<M; i++){
    for(j=0; j<N; j++){
        for(k=0; k<P; k++){
            for(l=0; l<Q; l++){
                //access A[i,j,k,l]
            }
        }
    }
}
```

What's the address of $A[2, 4, 3, 5]$? Also show the calculation procedure of your answer.