

3) (5 pts) ALG (Stack)

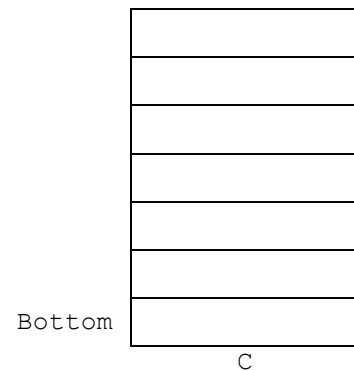
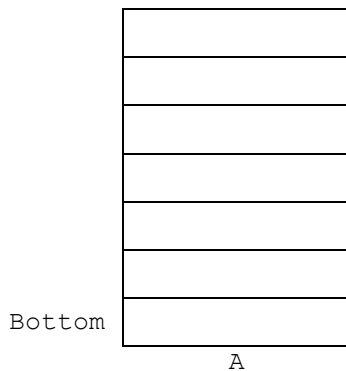
Consider the following C code that represents a stack that holds a list of values. Show the contents of the stack **right after** each indicated point commented (A, B, and C), under the assumption that the followStack function is called with a pointer to a stack_t that is empty.

```
typedef struct node_s{
    int data;
    struct node_s * next;
}node_t;

typedef struct{
    node_t * top;
}stack_t;

void push(stack_t * s, int data);
int pop(stack_t * s);

void followStack(stack_t * myStack){
    int x;
    push(myStack, 12);
    push(myStack, 5);
    push(myStack, -8);
    x = pop(myStack);
    x = pop(myStack);
    push(myStack, 23); //A
    x = pop(myStack);
    push(myStack, 17);
    push(myStack, -3);
    x = pop(myStack);
    x = pop(myStack);
    push(myStack, 9);
    push(myStack, 6); //B
    push(myStack, -14);
    x = pop(myStack);
    x = pop(myStack);
    x = pop(myStack);
    push(myStack, 34);
    x = pop(myStack); //C
}
```



Computer Science Foundation Exam

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Section B

ADVANCED DATA STRUCTURES

**NO books, notes, or calculators may be used,
and you must work entirely on your own.**

Name: _____

UCFID: _____

Question #	Max Pts	Category	Score
1	10	DSN	
2	10	DSN	
3	5	ALG	
TOTAL	25		

You must do all 3 problems in this section of the exam.

Problems will be graded based on the completeness of the solution steps and not graded based on the answer alone. Credit cannot be given unless all work is shown and is readable. Be complete, yet concise, and above all be neat. For each coding question, assume that all of the necessary includes (stdlib, stdio, math, string) for that particular question have been made.