stack.c

```
#include "stack.h"
stack init(stack s) {
        s.sp = 0;
        return s; }
stack push(stack s, int elem) {
        s.stack[s.sp] = elem;
        s.sp++;
        return s; }
stack pop(stack s) {
        s.sp--;
        return s; }
int empty(stack s) {
    return s.sp ? 0 : 1; }
```

prog1.c

```
#include <stdio.h>
#include "stack.h"
int main() {
    stack s1;
    s1 = init(s1);
    s1 = push(s1, 15);
    s1 = push(push(push(s1, 8), 5), 3);
    s1 = pop(s1);
    liststack(s1); }
```