

Add a list function

Extend the list library covered in the lectures (in the ``list/`` subdirectory) with a new function:

```
```C
// Insert element at end of list. Returns 0 on success.
int list_insert_last(struct list*, void*);
```
```

It should insert a new element at the end of the list. Make sure to write tests for it, and to check that it does not leak memory.

Implementing a stack

The ``calc/`` directory contains the code for a simple calculator that uses Reverse Polish Notation. For example, to compute the expression ``(3 - 4) / (5 + 6) == -0.090909`` and print the result, we would input:

```
~~~
$ ./calc
3
4
-
5
6
+
/
p
Result: -0.090909
~~~
```

Note the newlines after each symbol.

And to compute the expression ``3 - (4 - 5) == 4`` and print the result, we would input:

```
~~~
$ ./calc
3
4
5
-
-
p
Result: 4
~~~
```

Unfortunately I ran late and forgot to finish the implementation of ``stack.h`` and ``stack.c``. Finish it for me so the stack calculator will work.

List implementation

Change the implementation of the list library covered in the lectures (in the ``list/`` subdirectory) to use a different representation. Do not change ``list.h``. For example, an implementation with doubly linked lists:

```
struct node {
    void *elem;
    struct node *next;
    struct node *prev;
};

struct list {
    struct node *first;
    struct node *last;
};
```

Or one where the representation is a flat array:

```
struct list {  
    void **data;  
    int length;  
};
```

Consider how these affect the performance of the API, without changing its semantics.