Homework Project 3

Given 11/15/2012, Due 12/13/2012

Implement a structure that maintains a linear order, based on chapter 6.5 of the book. The structure must support the following operations

- `o_t * create_order()` creates an empty linear ordered set
- `void insert_before(o_t *ord, key_t a, key_t b)` inserts the key `a` immediately before key `b` in the ordered set.
- `void insert_after(o_t *ord, key_t a, key_t b)` inserts the key `a` immediately after key `b` in the ordered set.
- `void insert_top(o_t *ord, key_t a)` inserts the key `a` as largest element in the ordered set
- `void insert_bottom(o_t *ord, key_t a)` inserts the key `a` as smallest element in the ordered set
- `void delete_o(o_t *ord, key_t a)` deletes the key `a` from the ordered set
- `int is_before(o_t *ord, key_t a, key_t b)` returns 1 if key `a` occurs before key `b` in the ordered set, 0 else.

Here `key_t` is a number type that allows comparisons.