

Source code from book

Stack

```
struct Stack {
    struct Link {
        void* data;
        Link* next;
        void initialize(void* dat, Link* nxt);
    }* head;
    void initialize();
    void push(void* dat);
    void* peek();
    void* pop();
    void cleanup();
};
```

Stash

```
struct Stash {
    int size;           // Size of each space
    int quantity;      // Number of storage spaces
    int next;           // Next empty space
    // Dynamically allocated array of bytes:
    unsigned char* storage;
    // Functions!
    void initialize(int size);
    void cleanup();
    int add(const void* element);
    void* fetch(int index);
    int count();
};
```

```
void inflate(int increase);  
};
```

Questions

Main data structure of Stack

The main data structure is *link stack*. There are a `struct Link` in `struct Stack` which defined data's content, next element and declared initialize function.

In addition, there are also some other functions in `struct Stack` to do some operation of the stack or elements in stack.

Differences in the data storage of Stash and Stack

In *Stack*, data stored by an array of `struct Link` ;

In *Stash*, data stored by isolated variable.

In *Stack*, data added by function `push` . OS will allocate a part of unused memory to store the new data;

In *Stash*, data added by function `add` . Data stored in memory which was already allocated when Stash was initialized. If there is not enough room to store new data, `inflate` function will be called.