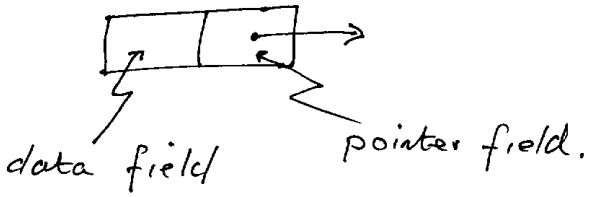
ADT Stack

Node Structure

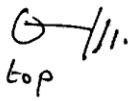



```
struct Node {
    int data;
    Node * next;
};
```

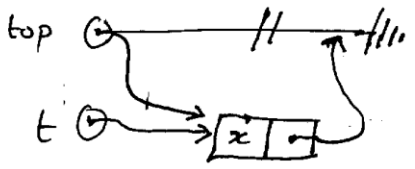
ADT Stack

Linked List Implementation

Empty Stack.



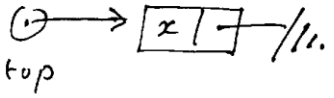
Pushing onto empty stack



(i) create new linked list node
(ii) initialise it
(iii) repoint top

```
t = new Node;
t->data = x;
t->next = top;
top = t;
```

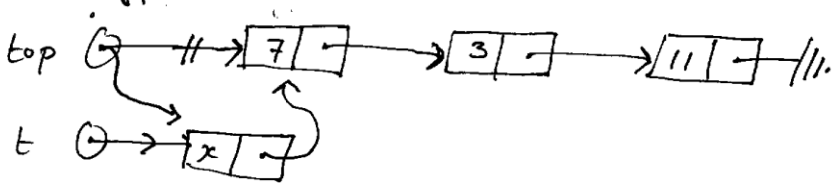
Yields



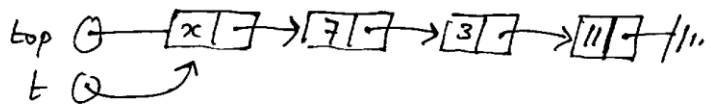
Non - Empty Stack

No significant change here. Procedure same as for empty stack. Code the same.

e.g.



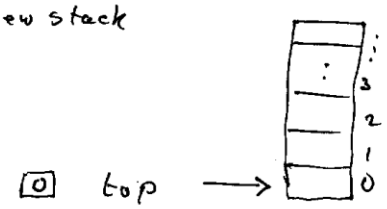
Yields



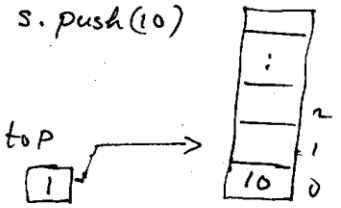
Array Implementation of Stack

Dynamically create an array of some predefined size when the constructor is called.

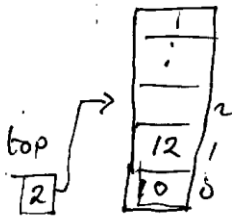
New stack



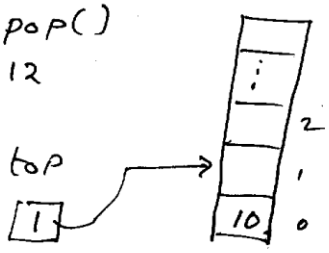
s.push(10)



s.push(12)



s.pop()
↝ 12



The coding should be quite simple here.

Note: pop() is only a valid operation on a non-empty stack.