Stack ADT Implementation

Martzel Baste

ADT Operations : Stack

Creators	Transformers	Observers
• Constructor and destructor	• Push(), Pop(), clearStack()	• stackTop(), emptyStack(), fullStack() • stackCount(), dispStack()

Creators

- Constructor
  - Allocates memory for a stack [array] from dynamic memory
  - Also sets the array size. In fact, it can be used as a parameter to the constructor
  - Set the top to 0 or -1
  - Initialize all values of the stack elements to -1
- Destructor
  - Releases all data to dynamic memory
  - Deletes the stack [array] from memory
  - Must use delete

Transformers

Push()

- Inserts one item into the stack
- The inserted item becomes the top
- Returns: true if successful, false if overflow

Pop()

- Removes the item on the top of the stack and returns it to the user
- The next youngest element becomes the top.
- Returns: data to the user

clearStack()

- It resets the entire stack, thereby making it empty.
- The top must be reset to 0 or -1 as well.

Observers

stackTop()	stackCount()	emptyStack()	fullStack()	dispStack()
• Returns the element at the top of the stack	• Returns the number of elements currently present in the stack	• Return true if empty, false if not	• Returns true if full, false if not	• Prints the contents of the stack on the screen

NEXT : Program Demo

Thank you!