

TAD Stack
Stack= <<e1, e2, e3, ..., en>, top>
<b>Invariant:</b> $0 \leq n \wedge \text{Stack.size}=n \wedge \text{top}=en$
<b>Construction operations:</b> *Create : $\rightarrow \text{Stack}$ <b>Modifier operations:</b> *push: $\text{Stack} \times \text{Element} \rightarrow \text{Stack}$ *pop: $\text{Stack} \rightarrow \text{Stack}$ *top: $\text{Stack} \rightarrow \text{Element}$ <b>Operaciones analizadoras:</b> *isEmpty: $\text{Stack} \rightarrow \text{boolean}$

**Create (value)**  
"Creates an empty Stack"

{pre: TRUE }

{post: Stack s= ∅}

**push (e)**  
"Adds the new element e to Stack s"

{pre: Stack s= <e1, e2, e3, ..., en and element e or s= ∅ and element e }

{post: Stack s= <e1, e2, e3, ..., en, e> or s= <e>}

**pop()**  
"Extracts from the stack s the most recently inserted element."

{pre: Stack s is not ∅, i.e. s=<e1,e2,e3,...,en-1,en }

{post: Stack s= <e1, e2, e3, ..., en-1 }

**top():**  
"Recovers the value of the element on the top of the stack."

{pre: Stack s is not ∅, i.e. s=<e1,e2,e3,...,en-1,en }

{post: element e\_n}

**isEmpty():**  
"Determines wheter the stack s is empty."

{pre: Stack s}

{post: True if s= ∅, False otherwise}