Example - Circular List (of integers) ADT

Signature
CREATE: □ CList
ISEMPTY: CList □ Boolean
INSERT: CList, Int □ CList
VALUE: CList □ Int
DELETE: CList □ CList
RIGHT: CList □ CList
JOIN: CList, CList □ CList
with pre-defined types Boolean and Int.

Semantics: for all c, c1 □ CList and i, i1 □ Int

9. ISEMPTY(CREATE) = true
10. ISEMPTY(INSERT(c, i)) = false
11. DELETE(CREATE) = CREATE
12. DELETE(INSERT(c, i)) = c
13. VALUE(CREATE) = "UNDEF"
14. VALUE(INSERT(c, i)) = i
15. RIGHT(CREATE) = CREATE
16. RIGHT(INSERT(CREATE, i)) = INSERT(CREATE, i)
17. RIGHT(INSERT(INSERT(c, i), i1)) = INSERT(RIGHT(INSERT(c, i1)), i)
18. JOIN(c, CREATE) = c
19. JOIN(c, INSERT(c1, i)) = INSERT(JOIN(c, c1), i)

Circular Lists amount to Stacks augmented with the two additional operations, RIGHT and JOIN. With the correspondence shown below, the behavior of the other Circular List operations is precisely that of Stacks.

CList		Stack
CREATE	□ □	NEWSTACK
INSERT	□ □	PUSH
DELETE	□ □	POP
VALUE	□ □	TOP
ISEMPTY	□ □	ISNEWSTACK