Data Structure

Using C Programming

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Algorithm for PUSH and POP operations.

Declaration:

Let S is a Stack of SIZE = 100 elements, and top is an integer to hold the index of the last inserted element into the stack.
Initially TOP:=-1

Algorithm:

```
PROCEDURE PUSH (v)
IF TOP = SIZE – 1 THEN
     DISPLAY "STACK OVERFLOW"
     EXIT PUSH
END IF
TOP:=TOP+1                // INCREMENT THE TOP OF THE STACK BY 1
S[TOP]:=v                 // ASSIGN THE ELEMENT AT THE TOP POSITION OF THE STACK
END PROCEDURE PUSH
```

```
PROCEDURE POP ()
IF S.TOP == -1 THEN
    DISPLAY "STACK UNDERFLOW"
    EXIT POP
END IF
v:=S[TOP]
TOP:=TOP – 1
RETURN v
END PROCEDURE POP
```