**2020, 2021, 2022, 2023 – TCS, Wipro, InfoSys, Accenture Question**

**PROBLEM STATEMENT:**

**IMPLEMENT TWO STACKS IN AN ARRAY PROBLEM**

**Implement Two Stacks inside a Single Array Efficiently**

Problem: You have been given one single array, now you must implement two stack data structures inside that array efficiently in the O(1) Time Complexity and O(1) Auxiliary Space.

**Requirements:**

There should be 4 Methods in the program:

1. **Push1():** This method will be pushing the element into the first stack in that single array.
2. **Push2():** This method will be pushing the element into the second stack in that single array.
3. **Pop1():** This method will be popping the element from the first stack of the array. If the Topmost stack is empty, then print stack underflow.
4. **Pop2():** This method will be popping the element from the second stack of the array. If the Topmost stack is empty, then print stack underflow.

Your Program should be using an **Object-Oriented Approach** where you will be creating a class and using the object of that class, you will be accessing the methods **push1(), push2(), pop1(), pop2(),** in your main function.

Also make use of a constructor also inside your class so that the size of the array can be given using the constructor of that class.

**Test Case 1:**

**Input:**

Push1(5)

Push1(3)

Push2(7)

Pop1()

Pop2()

Pop2()

**Output:**

3, 7, Stack Underflow

**Test Case 2:**

**Input:**

Push1(1)

Push2(2)

Pop1()

Push1(3)

Pop1()

Pop1()

**Output:**

1, 3, Stack Underflow