### Queue using two Stacks

Implement a Queue using 2 stacks**s1** and**s2** .  
A Query **Q** is of 2 Types  
**(i)** 1 x (a query of this type means  pushing **'x'** into the queue)  
**(ii)** 2   (a query of this type means to pop element from queue and print the poped element)

**Note :-** If there is no element return -1 as answer while popping.

**Example 1:**

**Input:**

5

1 2 1 3 2 1 4 2

**Output:**

2 3

**Explanation:**

In the first testcase

1 2 the queue will be {2}

1 3 the queue will be {2 3}

2   poped element will be 2 the queue

  will be {3}

1 4 the queue will be {3 4}

2   poped element will be 3.

**Example 2:**

**Input:**

4

1 2 2 2 1 4

**Output:**

2 -1

**Explanation:**

In the second testcase

1 2 the queue will be {2}

2   poped element will be 2 and

  then the queue will be empty

2   the queue is empty and hence -1

1 4 the queue will be {4}.

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**Java code**

import java.util.\*;

import java.util.Stack;

import java.util.LinkedList;

class CodingMaxima

{

public static void main(String args[])

{

//Taking input using class Scanner

Scanner sc = new Scanner(System.in);

//Taking input the number of testcases

int t = sc.nextInt();

while(t>0)

{

//Creating a new object of class StackQueue

StackQueue g = new StackQueue();

//Taking input the total number of Queries

int q = sc.nextInt();

while(q>0)

{

int QueryTyoe = sc.nextInt();

//If QueryTyoe is 1 then

//we call the Push method

//of class StackQueue

//else we call the Pop method

if(QueryTyoe == 1)

{

int a = sc.nextInt();

g.Push(a);

}else

if(QueryTyoe == 2)

System.out.print(g.Pop()+" ");

q--;

}

System.out.println();

t--;

}

}

}

class StackQueue

{

Stack<Integer> s1 = new Stack<Integer>();

Stack<Integer> s2 = new Stack<Integer>();

//Function to push an element in queue by using 2 stacks.

void Push(int x)

{

s1.push(x);

}

//Function to pop an element from queue by using 2 stacks.

int Pop()

{

if(s1.isEmpty())

return -1;

while(!s1.isEmpty()){

s2.push(s1.pop());

}

int n=s2.pop();

while(!s2.isEmpty()){

s1.push(s2.pop());

}

return n;

}

}