

**Module: SV for Verification****Section: Threads & Interprocess Communication Task: Mailboxes****Task 3 - [Bounded-MailBox](#)****Bounded Mailbox****➤ Code:**

```
// Author: Noman Rafiq
// Dated: Sep 09, 2024

program automatic test;
    mailbox #(int) mbx;
    int value;
    initial begin
        mbx = new(1);
        $display("mbx.num()=%0d", mbx.num());
        $display("mbx.try_get= %0d", mbx.try_get(value));
        mbx.put(2);
        $display("mbx.try_put= %0d", mbx.try_put(value));
        $display("mbx.num()=%0d", mbx.num());
        mbx.peek(value);
        $display("value=%0d", value);
    end
endprogram
```

**➤ Expected Output:**

The output reflects the state of the mailbox at each step. Initially, the mailbox is created with a size of 1 and is empty, so **mbx.num()** returns 0. When trying to retrieve a value from the empty mailbox using **mbx.try\_get()**, it fails, returning 0. After placing the value 2 into the mailbox with **mbx.put(2)**, the mailbox is now full.

The subsequent attempts to put another value using **mbx.try\_put()** fails because the mailbox has reached its capacity, so it returns 0. After checking the number of elements in the mailbox with **mbx.num()**, it shows 1 because the value 2 is still inside. Finally, the **mbx.peek()** function confirms that the value stored in the mailbox is indeed **2**, which it displays without removing it.

```
mbx.num()=0
mbx.try_get= 0
mbx.try_put= 0
mbx.num()=1
value=2
```

**Actual Output:**

Log

Share

```
Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64; Sep 9 09:00 2024
mbx.num()=0
mbx.try_get= 0
mbx.try_put= 0
mbx.num()=1
value=2
$finish at simulation time 0
V C S S i m u l a t i o n R e p o r t
Time: 0 ns
CPU Time: 0.460 seconds; Data structure size: 0.0Mb
Mon Sep 9 09:00:19 2024
Done
```