Module: SV for Verification
Section: Threads & Interprocess Communication **Task:** Fork Disable

Task

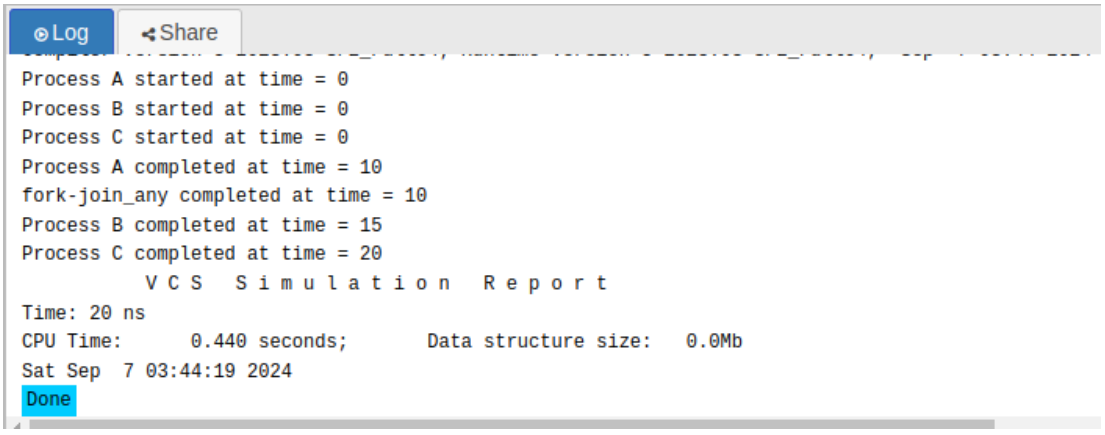
Fork Disable

➢ **Code:**

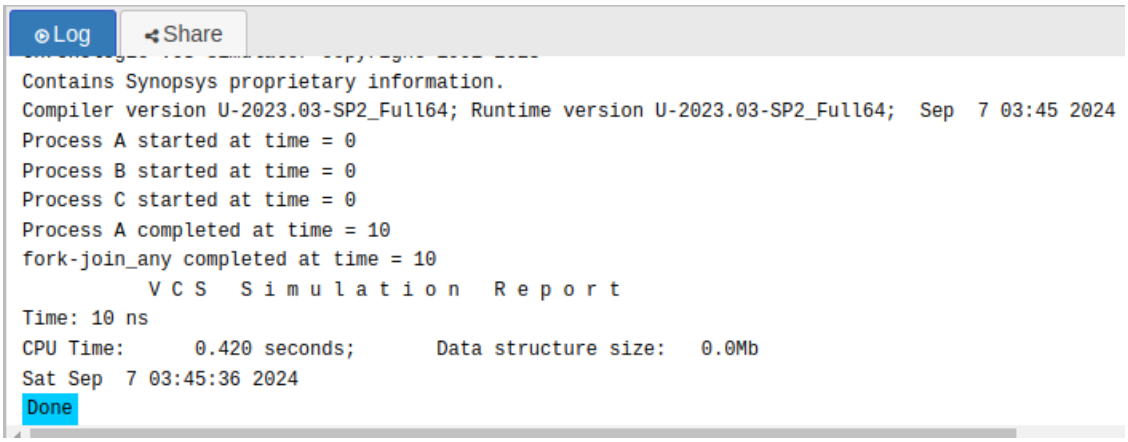
```
module fork_disable;
  initial begin
    fork
      begin // process A
        $display("Process A started at time = %0t", $time);
        #10;
        $display("Process A completed at time = %0t", $time);
      end
      begin // process B
        $display("Process B started at time = %0t", $time);
        #15;
        $display("Process B completed at time = %0t", $time);
      end
      begin // process C
        $display("Process C started at time = %0t", $time);
        #20;
        $display("Process C completed at time = %0t", $time);
      end
    join_any

    //Add code here for disabling fork
    disable fork;

    $display("fork-join_any completed at time = %0t", $time);
  end
endmodule
```

➢ **Before Fork Disable:**

- **Output:**



- **After Fork Disable:**
  - **Output:**



- **Observation:**

  In this code, using **join_any** causes the program to proceed as soon as any one of the forked processes (A, B, or C) completes. The first process to finish, which in this case is **Process A** after 10 time units, allows the program to move on immediately. The **disable fork;** statement ensures that after one process completes, the other forked processes are terminated, preventing them from finishing their execution as they did when there was no **disable fork;** statement in our code.

  As a result, **Process B** and **Process C** are never fully executed. This leads to the premature ending of the remaining tasks, and the message "fork-join_any completed" is printed at 10 time units when **Process A** completes.