```
LIBRARY ieee;
USE ieee.std_logic_1164.ALL;

ENTITY decoder_3_8_tb IS
END decoder_3_8_tb;

ARCHITECTURE behavior OF decoder_3_8_tb IS

    -- Component Declaration for the Unit Under Test (UUT)

    COMPONENT decoder_3_8
    PORT(
         A0 : IN  std_logic;
         A1 : IN  std_logic;
         A2 : IN  std_logic;
         Q0 : OUT  std_logic;
         Q1 : OUT  std_logic;
         Q2 : OUT  std_logic;
         Q3 : OUT  std_logic;
         Q4 : OUT  std_logic;
         Q5 : OUT  std_logic;
         Q6 : OUT  std_logic;
         Q7 : OUT  std_logic
        );
    END COMPONENT;


   --Inputs
   signal A0 : std_logic := '0';
   signal A1 : std_logic := '0';
   signal A2 : std_logic := '0';

        --Outputs
   signal Q0 : std_logic;
   signal Q1 : std_logic;
   signal Q2 : std_logic;
   signal Q3 : std_logic;
   signal Q4 : std_logic;
   signal Q5 : std_logic;
   signal Q6 : std_logic;
   signal Q7 : std_logic;
   -- No clocks detected in port list. Replace <clock> below with
   -- appropriate port name


BEGIN

        -- Instantiate the Unit Under Test (UUT)
   uut: decoder_3_8 PORT MAP (
          A0 => A0,
          A1 => A1,
          A2 => A2,
          Q0 => Q0,
          Q1 => Q1,
          Q2 => Q2,
          Q3 => Q3,
          Q4 => Q4,
          Q5 => Q5,
          Q6 => Q6,
          Q7 => Q7
        );



   -- Stimulus process
   stim_proc: process
   begin
      -- hold reset state for 20 ns.
      wait for 20 ns;

      wait for 10 ns;
      A0 <= '0';
                A1 <= '0';
                A2 <= '0';
      wait for 10 ns;
      A0 <= '0';
                A1 <= '0';
```

```
                A2 <= '1';
        wait for 10 ns;
        A0 <= '0';
                A1 <= '1';
                A2 <= '0';
        wait for 10 ns;
        A0 <= '0';
                A1 <= '1';
                A2 <= '1';
                wait for 10 ns;
        A0 <= '1';
                A1 <= '0';
                A2 <= '0';
                wait for 10 ns;
        A0 <= '1';
                A1 <= '0';
                A2 <= '1';
                wait for 10 ns;
        A0 <= '1';
                A1 <= '1';
                A2 <= '0';
                wait for 10 ns;
        A0 <= '1';
                A1 <= '1';
                A2 <= '1';

        wait;
    end process;

END;
```