Entity USE is

Port (si : in STD\_LOGIC;

Md : in STD\_LOGIC\_VECTOR(1 downto 0);

pi : in STD\_LOGIC\_VECTOR(3 downto 0);

so:out STD\_LOGIC;

po:out STD\_LOGIC\_VECTOR(3 downto 0);

clk:in STD\_LOGIC;

rst : in STD\_LOGIC);

end USR;

Begin

(if(rst=’1’) then

temp<=”0000”;

elsif(clk’event and clk =’1’)then

case md is

when “00”=>temp(3)<=si;

temp(2 downto 0)<=temp(3 downto 1);

so<=temp(0);

when “01”=>temp(3)<=si;

temp(2 downto 0)<=temp(3 downto 1);

po<=temp;

when “10”=>po<=pi;

when “11”=>temp<=pi;

so<=temp(3);

when others =>temp<=”0000”;

end case;

end if;

end process;

end Behavioral;

//one image will generated

Rst<=’1’;

Si<’1’;

Pi<=”1010”;

Md<=”00”;

--hold reset state for 100 ns.

Wait for 100 ns;

Rst<=’0’;

Si<’1’;

Pi<=”1010”;

Md<=”00”;

--hold reset state for 100 ns.

Wait for 100 ns;

Rst<=’0’;

Si<’1’;

Pi<=”1010”;

Md<=”01”;

--hold reset state for 100 ns.

Wait for 100 ns;

Rst<=’0’;

Si<’1’;

Pi<=”1010”;

Md<=”10”;

--hold reset state for 100 ns.

Wait for 100 ns;

Rst<=’0’;

Si<’1’;

Pi<=”1010”;

Md<=”11”;

--hold reset state for 100 ns.

Wait for 100 ns;

Wait for clk\_period\*10;

--insert stimulus here

Wait;

End process;

END;